

Service Manual

74 CD17/92B/95B

Compact disc player

This service manual gives the electrical differences between the 74CD17 (CD17/01/02) and the 74CD17KI (CD17/92/95).

The mechanical differences are not listed since they are not available as spare part.

All other information is described in the service manual of the 74CD17 (4822 725 51103).

The dispatch of the parts for after sales service has to be referred to these service manuals with the first priority .

Please use this service manual with referring to the user guide (D.F.U.) without fail.

marantz®

model CD-17KI

4822 725 24798

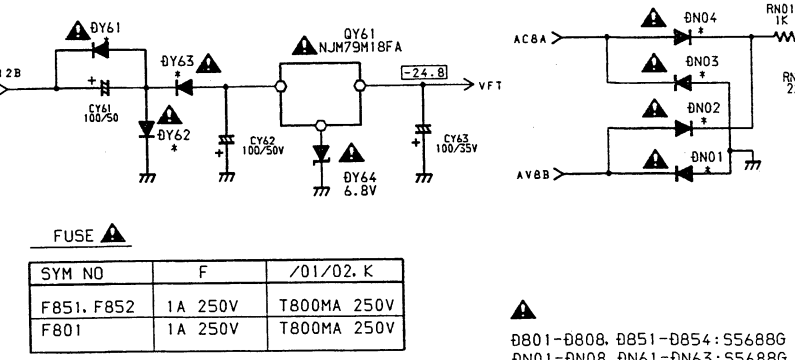
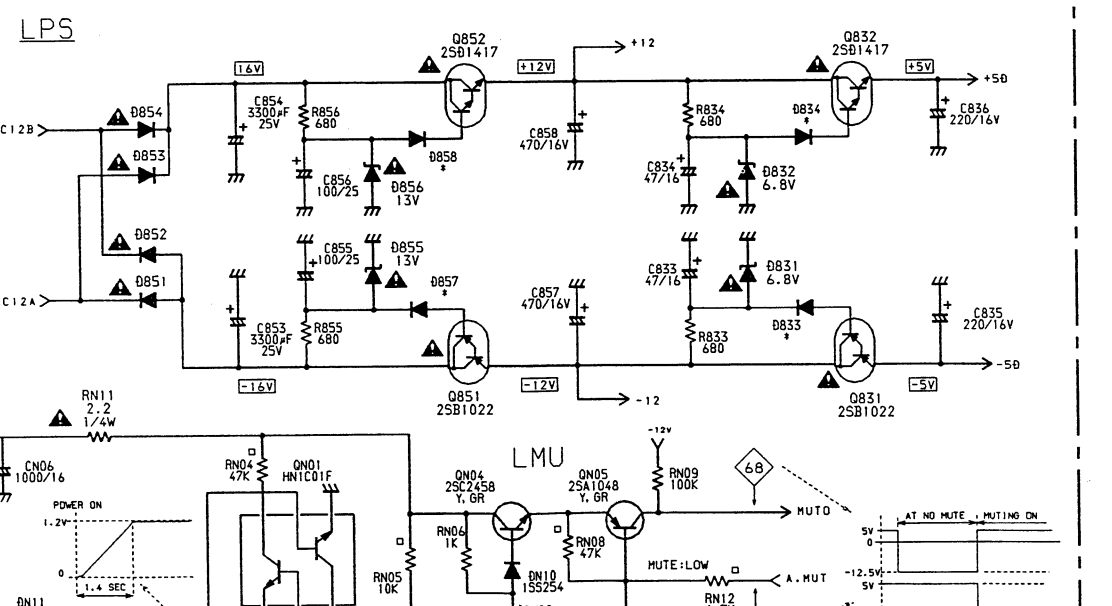
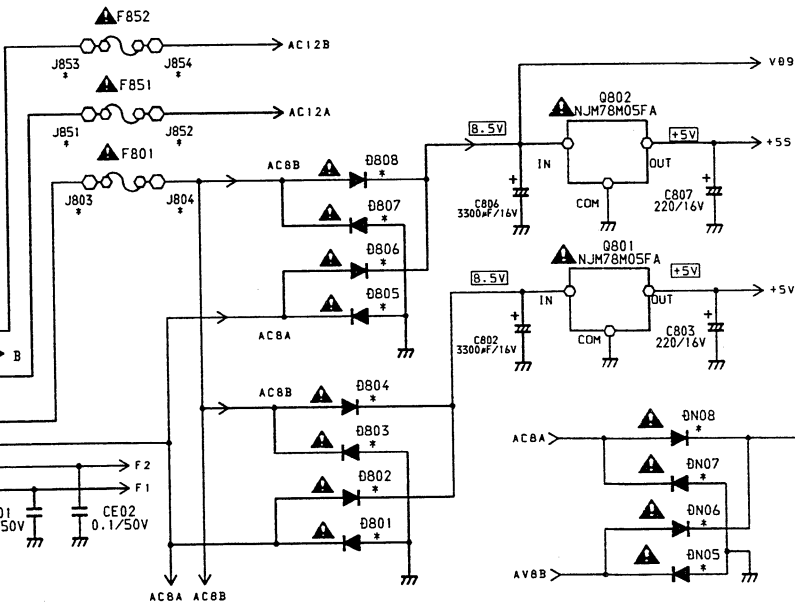
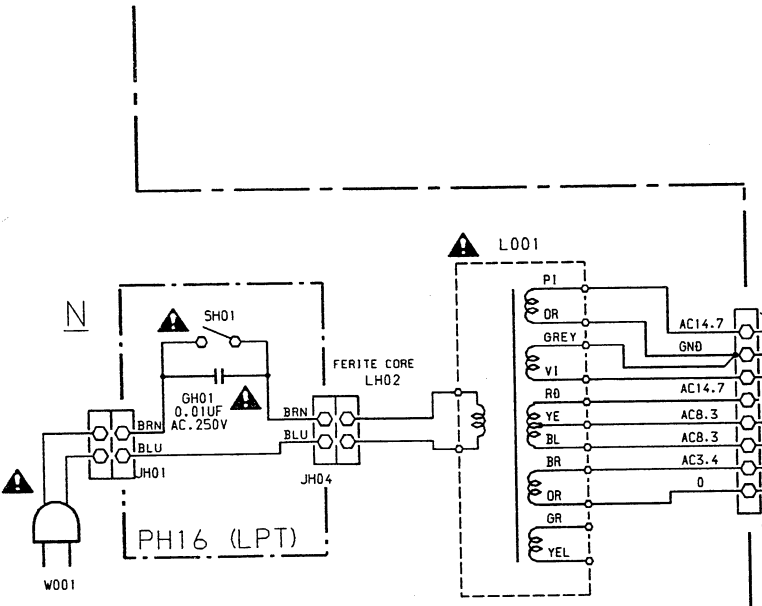
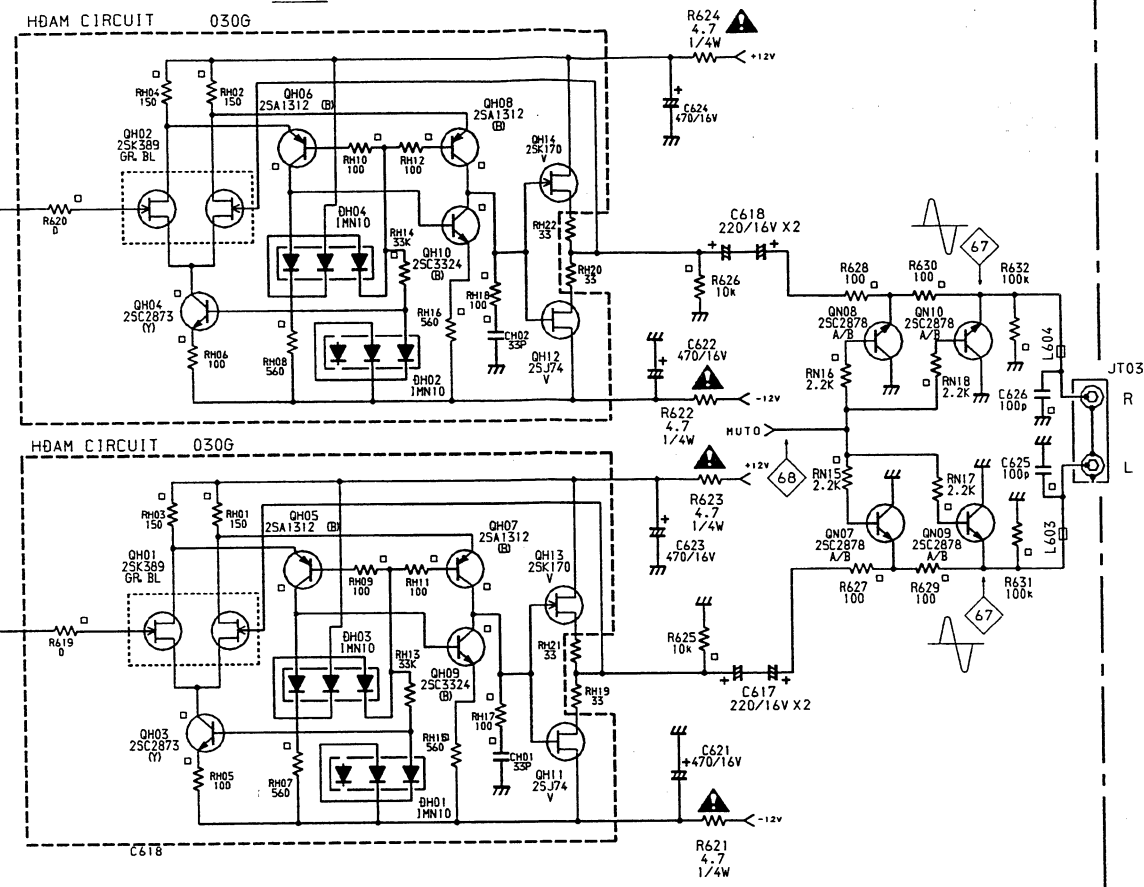
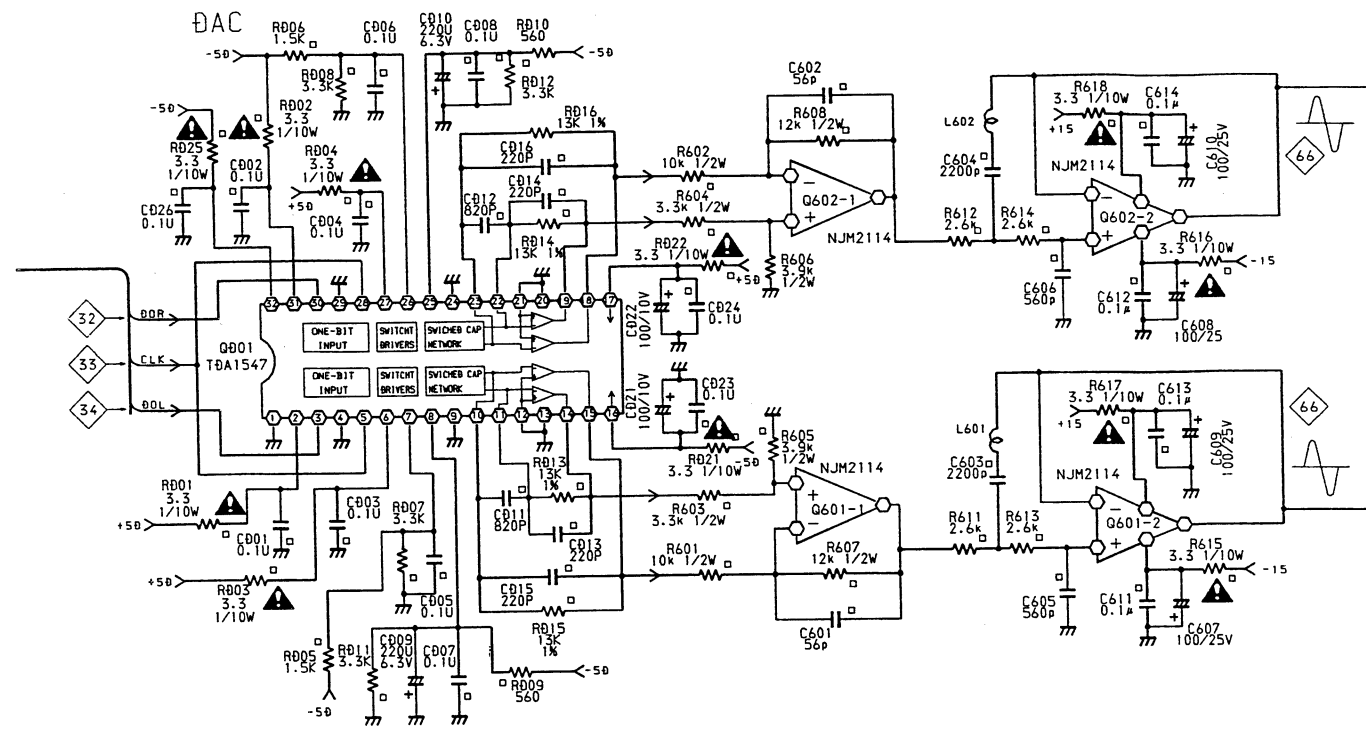
FROM Q503 (SAA7350)

LDA

LAU

LAH

LAU



SYM NO	F	/01/02.K
F851, F852	1A 250V	T800MA 250V
F801	1A 250V	T800MA 250V

Q801-Q808, Q851-Q854: S5688G
Q801-Q808, Q851-Q854: S5688G

MAIN PCB (PP16)

ELECTRICAL DIFFERENCE LIST

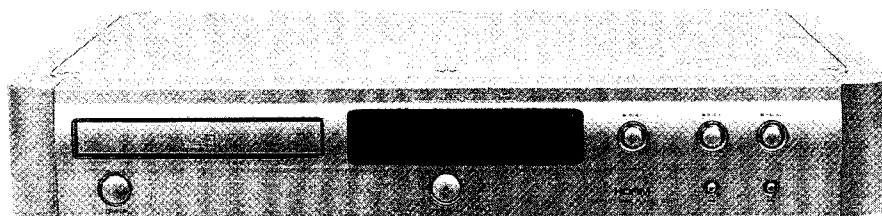
Page	Position nbr	74CD17/02	74CD17/92/95	Description
		N.A.	Added	Rubber damper Crystal
25	C802	4822 124 23782	4822 124 80124	3300uF/16V RA-2
	C806	4822 124 23782	4822 124 80124	3300uF/16V RA-2
	C857	4822 124 22277	4822 124 80121	1000uF/16V RA-2
	C858	4822 124 22277	4822 124 80121	1000uF/16V RA-2
	C621	4822 124 22277	4822 124 11953	470uF/16V Cerafine
	C622	4822 124 22277	4822 124 11953	470uF/16V Cerafine
	C623	4822 124 22277	4822 124 11953	470uF/16V Cerafine
	C624	4822 124 22277	4822 124 11953	470uF/16V Cerafine
	C835	4822 124 22238	4822 124 22039	220uF/16V Cerafine
	C836	4822 124 22238	4822 124 22039	220uF/16V Cerafine
	C617	4822 124 81317	4822 124 80123	2 x 220uF/16V Silmic
	C618	4822 124 81317	4822 124 80123	2 x 220uF/16V Silmic
	CE01	N.A.	4822 122 40617	0.1uF/50V
	CE02	N.A.	4822 122 40617	0.1uF/50V
23	W001	4822 321 10985	4822 321 10804	Mains Lead /92
	L001	4822 146 21857	4822 146 10377	Transformer 230V
	T100	4822 218 10527	4822 219 10193	Remote control
26	R835	4822 111 90967	Short circuited	0 Ohm
	R836	4822 111 90967	Short circuited	0 Ohm
	R858	4822 116 60309	Short circuited	0 Ohm
	R857	4822 116 60309	Short circuited	0 Ohm
27	D851	4822 130 80839	4822 130 10836	Shot key diode
	D852	4822 130 80839	4822 130 10836	Shot key diode
	D853	4822 130 80839	4822 130 10836	Shot key diode
	D854	4822 130 80839	4822 130 10836	Shot key diode
	JT03	4822 265 31045	4822 265 10911	RCA term. 2x

Service Manual

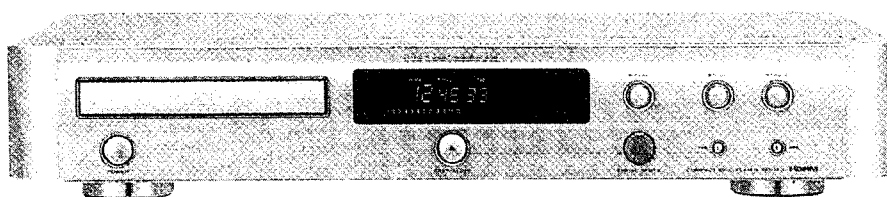
74 CD17/ 01B/02B/02G
CD-17/ DFN/FB/FN/KBL/KGL
Compact disc player



V19383



CD-17



CD-17D



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Please use this service manual with referring to the user guide (D.F.U.) without fail.

修理の際は、必ず取扱説明書を準備し操作方法を確認の上作業を行ってください。

又、六角棒スパナNO. 1.5が必要です。

marantz®

model CD-17

4822 725 51103

First issue : 1995/10

318K855090

PCS 86 410

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, **MARANTZ** company has created the ultimate in stereo sound. Only original **MARANTZ** parts can insure that your **MARANTZ** product will continue to perform to the specifications for which it is famous.

Parts for your **MARANTZ** equipment are generally available to our National Marantz Subsidiary or Agent.

ORDERING PARTS:

Parts can be ordered either by mail or by Fax.. In both cases, the correct part number has to be specified.

The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature: any order form or Fax. must be signed, otherwise such part order will be considered as null and void.

USA

MARANTZ AMERICA, INC.
440 MEDINAH ROAD
ROSELLE, ILLINOIS 60172-2330
USA
PHONE : 708-307-3100
FAX : 708-307-2687

CANADA

LENBROOK INDUSTRIES LIMITED
633 GRANITE COURT,
PICKERING, ONTARIO L1W 3K1
CANADA
PHONE : 416-831-6333
FAX : 416-831-6936

EUROPE

MARANTZ EUROPE B.V.
P.O. BOX 80002
BUILDING SFF2
5600 JB EINDHOVEN
THE NETHERLANDS
PHONE : +31-40-2732241
FAX : +31-40-2735578

PROFESSIONAL-USA

SUPERSCOPE TECHNOLOGIES, INC.
MARANTZ PROFESSIONAL PRODUCTS
1000 CORPORATE BLVD., SUITE D
AURORA, ILLINOIS 60504 USA
PHONE : 708-820-4800
FAX : 708-820-8103

PROFESSIONAL-CANADA

TC ELECTRONICS CANADA LTD
540 FIRING AVE.
BAIE D'URFÉ, QUEBEC H9X 3T2
CANADA
PHONE : 514-457-4044
FAX : 514-457-5524

TRADING

MARANTZ EUROPE B.V.
P.O. BOX 80002
BUILDING SFF2
5600 JB EINDHOVEN
THE NETHERLANDS
PHONE : +31-40-2732241
FAX : +31-40-2735578

AUSTRALIA

MARANTZ AUSTRALIA
3 Figtree Drive
Australia Centre
Homebush, NSW2140 AUSTRALIA
PHONE : +61 2 742.8311
FAX : +61 2 7643074

HONG-KONG

FORWARD INTERNATIONAL CORP. LTD.
15 TH FLOOR, REGENT CENTRE,
88 QUEEN'S ROAD, CENTRAL, H. K.
PHONE : +852 521-0883
FAX : +852 521-7835

THAILAND

MRZ STANDARD CO., LTD.
746-750 WANGBURAPA BANGKOK
10200 THAILAND
PHONE : +66 2222 9181
FAX : +66 2225 8871

TAIWAN

PAI-YUNG CO., LTD.
6 TH FL NO. 148 SUNG KIANG RORD,
TAIPEI, 10429, TAIWAN R.O.C.
PHONE : +886 (2) 5221304-8
FAX : +886 (2) 5630415

MALAYSIA

WO KEE HONG ELECTRONICS SDN. BHD.
NO. 102 JALAN SS 21/35, DAMANSARA
UTAMA, 47400 PETALING JAYA
SELANGOR DARUL EHSAN,
MALAYSIA
PHONE : +60 3-7184666
FAX : +60 3-7173828

SINGAPORE

WO KEE HONG (SINGAPORE) PTE. LTD.
29, LENG KEE ROAD
SINGAPORE 159099,
PHONE : +65 475-4555
FAX : +65 475-8623

JAPAN-Technical

MARANTZ JAPN INC.
35-1, 7-chome, Sagamiono
Sagamihara-shi, Kanagawa
Japan
PHONE : +81 427 48 2181
FAX : +81 427 48 0889

日本マランツ株式会社

本社 〒228 神奈川県相模原市相模大野7丁目35番1号
営業本部 〒150 東京都渋谷区恵比寿南1丁目11番9号

SHOCK, FIRE HAZARD SERVICE TEST:

CAUTION: After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or Front Panel of product and controls and chassis bottom.

Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before it is return to the user/customer.

Ref. UL Standard NO.1492.

In case of difficulties, do not hesitate to contact the Technical
Department at above mentioned address.

1. TECHNICAL SPECIFICATIONS

オーディオ特性

チャンネル	2チャンネル
周波数特性	2Hz~20,000Hz, ± 0.3 dB
ダイナミックレンジ	98dB以上
S/N比	110dB
チャンネルセパレーション	103dB (1kHz)
高調波歪率	0.0015% (1kHz)
ワウフラッター	水晶精度
誤り訂正方式	クロスインターリーブリード・ ソロモンコード (CIRC)

音声出力	2.2V RMSステレオ
デジタル出力	ピンジャック 0.5Vp-p 75 Ω * 角型光コネクター 光出力 -19dBm

* デジタル入力

角型光コネクター 光出力	-19dBm (フロント、リア)
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光学読み取り方式

レーザー	AlGaAs 半導体
波長	780nm

信号方式

サンプリング周波数(CD モード)	44.1kHz
*(D/A モード)	32/44.1/48kHz
量子化	16ビットリニア / チャンネル

電源部

電源	AC 100V 50/60Hz
消費電力 (電気用品取締法)	15W

キャビネット・その他

最大外形寸法 (幅×高さ×奥行き)	458×83×315mm
質量	7.8kg
許容動作温度	+0.5℃ ~ +35℃
許容動作湿度	5~90% (結露のないこと)

付属品

* リモートコントロール送信機 (RC-D17CD)	1
* 外形寸法 (幅×高さ×奥行き)	44×17.5×239mm
* 質量(電池なし)	175g
* 単四電池(SUM-4)	2個
リモートコントロール送信機 (RC-63CD)	1
外形寸法 (幅×高さ×奥行き)	55×18×194mm
質量(電池なし)	63g
単三電池(SUM-3)	2個
RCAピンコード	1組

* : CD-17DF タイプ

本機の規格および外観は改良のため予告なく変更することがありますのでご了承ください。

Audio Characteristics

Channels	2 channels
Sampling frequency	44.1 kHz
Quantization	16-bit linear/channel
Error correction	Cross-interleave read solomon code (CIRC)
D/A conversion	1-bit linear/channel
Wow & flutter	Precision of quarts

Optical Readout System

Laser	CaAlAs semiconductor
Wavelength	780 nm

Frequency Characteristics

Frequency range	5 Hz ~ 20 kHz
Dynamic range	> 98 dB
S/N ratio	> 106 dB
Channel separation (1 kHz)	> 100 dB
THD (1 kHz)	0.0015 %

Analog output

Output level (cinch JACKS)	2.2 V RMS
Output impedance	250 ohms

Digital output

Output level (cinch JACK)	0.5 Vp-p/75 ohms
---------------------------------	------------------

Power Supply

Power requirement

/01 version	115 / 230 AC 50/60 Hz
/02 version	230 AC 50 Hz
K version	110 / 220 AC 50/60 Hz

Power Consumption	15 W
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Cabinet, etc.

Dimensions

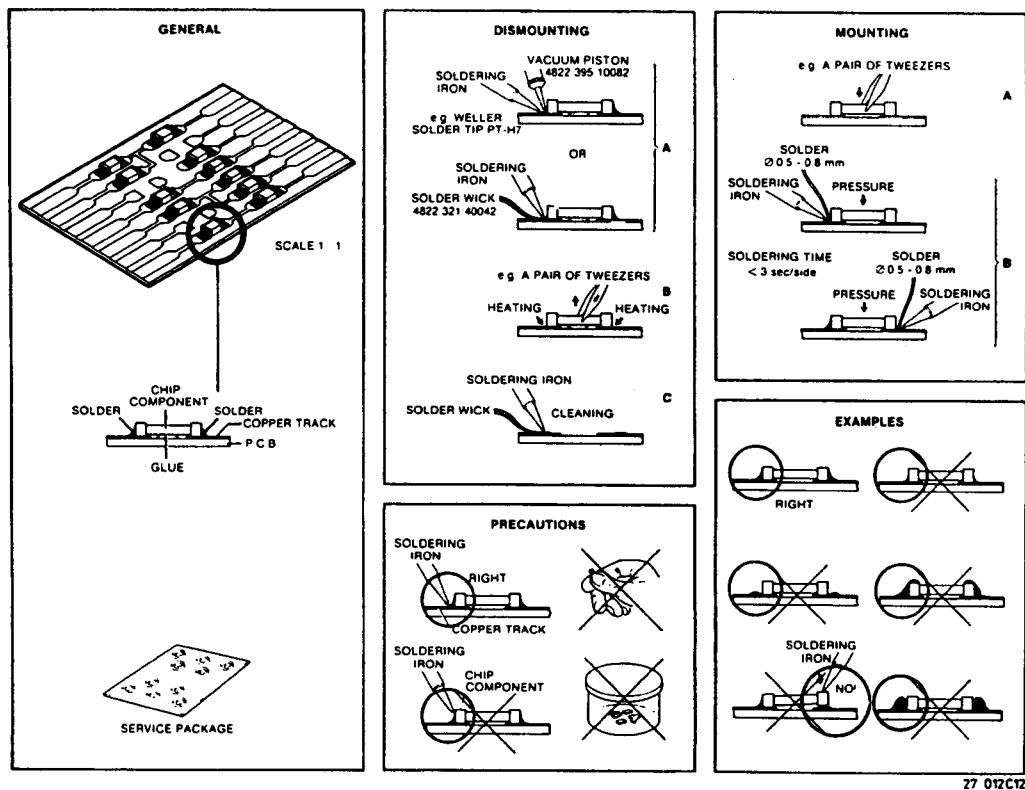
Width	458 mm
Height	83 mm
Depth	313 mm
Netweight	7.8 kg
Operating temperatures	+5 °C ~ +35 °C
Operating humidity	5 % ~ 90 % (without dew)

Accessories

Remote control unit (RC-63CD)	1
AA (R6) Batteries	2
Stereo audio cable with cinch pins	1

Improvement may result in changes in specifications and design without notice.

2. SERVICING HINTS



**CAUTION
VARO!
VARNING
ADVERSEL
DANGER
VORSICHT**

INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASER SÄTTEILYLLE ÄLÄ KATSO SÄTEESSEN.
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN.
USYNLIG LASERSTRÅLNING VED ÅBNING. UNDGÅ UNSÆTTELSE FOR STRÅLING.
INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

CLASS 1 LASER PRODUCT
KLASSE 1 LASER PRODUKT
I.H.T. IEC 825

3. SERVICE TOOLS

Audio signals disc
Disc without errors (SBC444)+
Disc with DO errors, black spots and fingerprints (SBC444A)
Disc (65 min 1kHz) without no pause
Max. diameter disc (58.0 mm)
Torx screwdrivers
 Set (straight)
 Set (square)
13th order filter
Hexagon socket screw button (No. 1.5)

4822 397 30184

4822 397 30245

4822 397 30155

4822 397 60141

4822 395 50145

4822 395 50132

4822 395 30204

4. サービスモード

1. サービスモードへの入り方
 - ・ [STOP]、[PLAY]、[OPEN/CLOSE] ボタンの3つを押して電源を入れる。
 2. モード0 (表示 P 0 0)

状態: [FOCUS OFF] [SPINDLE OFF] [RADIAL OFF] [MUTE ON]

 - ・ [CUE]/[REVIEW] ボタンを押すとスレッドが外周へ移動します。(リモコンにて)
 - ・ [NEXT] ボタンを押すとモード1へ移行します。
 3. モード1 (表示 P 0 1)

状態: [FOCUS ON] [SPINDLE OFF] [RADIAL OFF] [MUTE ON]

 - ・ [NEXT] ボタンを押すとモード2へ移行します。
 - ・ [PREV] ボタンを押すとモード0へ移行します。
 4. モード2 (表示 P 0 2)

状態: [FOCUS ON] [SPINDLE ON] [RADIAL OFF] [MUTE ON]

 - ・ [NEXT] ボタンを押すとモード3へ移行します。
 - ・ [PREV] ボタンを押すとモード0へ移行します。
 5. モード3 (表示 P 0 3)

状態: [FOCUS ON] [SPINDLE ON] [RADIAL ON] [MUTE OFF]

 - ・ [CUE] ボタンを押すとスレッドが外周へ移動します。(リモコンにて)
 - ・ [REVIEW] ボタンを押すとスレッドが内周へ移動します。(リモコンにて)
 - ・ [PREV] ボタンを押すとモード2へ移行します。
- * サービスモードの全ての状態で以下のボタンが有効です。
- 1) [STOP] ボタンを押すとFLが全点灯します。
 - 2) [PAUSE] ボタンを押すとモデル番号とバージョンを

Cd 17 : 10
 | |
 | | プロセッサバージョン番号
 | |
 | | モデル番号

表示します。

- 3) [PLAY] ボタンを押すと通常 (サービスモード以外) と同じ動作となります。
- ただし、異常が確認された時にエラー番号が表示されます。(例: Err 10)
- 右の表を参考にしてください。
6. サービスモードの解除
 - ・ 電源を切るとサービスモードが解除されます。

4. SERVICE MODE

1. How to enter into the Service Mode
 - ・ Turn the power on while pressing 3 of [STOP], [PLAY], [OPEN/CLOSE] buttons.
 2. Mode 0 (Display P 00)

Condition: [FOCUS OFF] [SPINDLE OFF] [RADIAL OFF] [MUTE ON]

 - ・ The sled moves outside when pressing [CUE]/[REVIEW] buttons. (From Remocon)
 - ・ The function moves to Mode 1 when pressing [NEXT] button.
 3. Mode 1 (Display P 01)

Condition: [FOCUS ON] [SPINDLE OFF] [RADIAL OFF] [MUTE ON]

 - ・ The function moves to Mode 2 when pressing [NEXT] button.
 - ・ The function moves to Mode 0 when pressing [PREV] button.
 4. Mode 2 (Display P 02)

Condition: [FOCUS ON] [SPINDLE ON] [RADIAL OFF] [MUTE ON]

 - ・ The function moves to Mode 3 when pressing [NEXT] button.
 - ・ The function moves to Mode 0 when pressing [PREV] button.
 5. Mode 3 (Display P 03)

Condition: [FOCUS ON] [SPINDLE ON] [RADIAL ON] [MUTE OFF]

 - ・ The Sled moves outside when pressing [CUE] button. (From Remocon)
 - ・ The Sled moves inside when pressing [REVIEW] button. (From Remocon)
 - ・ The function moves to Mode 2 when pressing [PREV] button.
- * The following button operation can be available at all of the conditions of the service mode.
- 1) All of FL display light by pressing [STOP] button.
 - 2) Model Number and Version Nbr of the μ -processor are displayed by pressing [PAUSE] button.

Cd17 : 10
 | |
 | | μ -Processor Version Nbr.
 | | Model Name

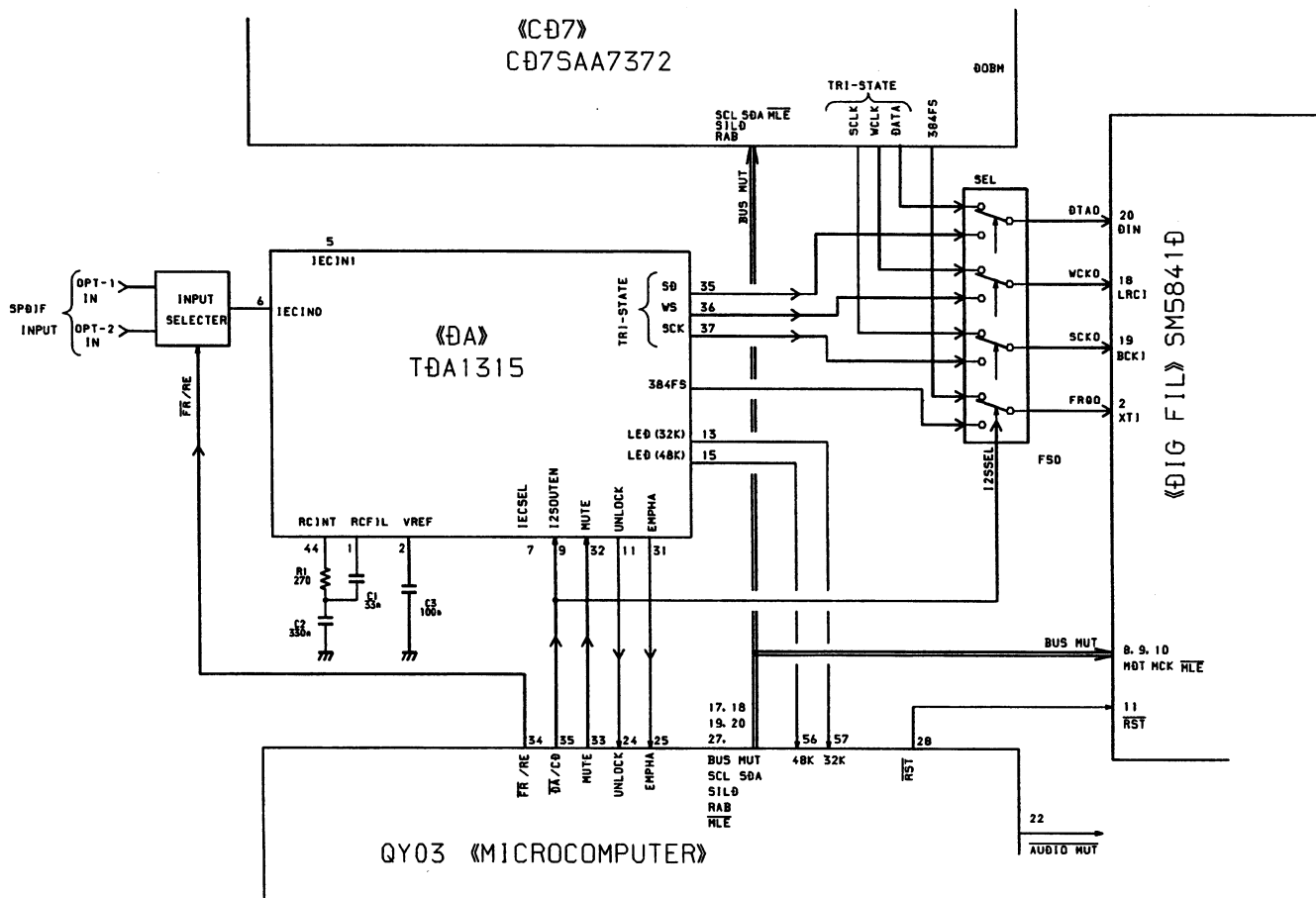
- 3) The same as Normal operation (except Service mode) is performed by pressing [PLAY] button.
- However if some default is detected, an error code is displayed. (For example: Err 10)
- The content for each error code is shown below.

Error Code	Error
Err 02	FOCUS Error
Err 07	SUB CODE Error
Err 08	T. O. C. Error
Err 09	DECODER Error
Err 10	REDIAL Error
Err 11, 12	SLED Error
Err 13	SPINDLE Error
Err 16 ~ 20	SEARCH Error
Err 30	DOOR Error
Err 31	TRAY Error
Err 32 ~ 47	BUTTON INPUT Error

6. Cancelling the Service Mode
 - ・ The Service Mode is cancelled by turning the power off.

5. TDA1315 STAND-ALONE MODE

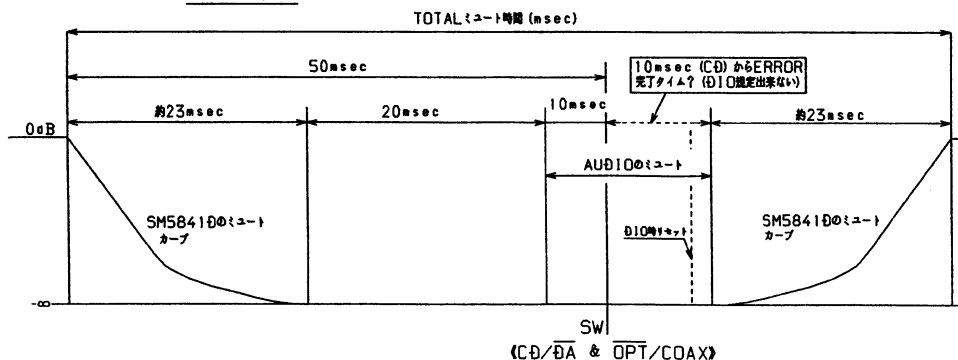
BLOCK DIAGRAM



切り替え動作によるミュート、ならびにリセットの動作。

- モード (C Δ ・ Δ A) ならびにOPT切り替え時ソフトミュートをセット。
AUDIO MUTはこのモード切り替え動作時アナログ回路のミュートON、OFF。
(モード切り替え動作信号 (C Δ ・ Δ A) のソフトミュートをセットする、下図参照。)
- MUTEとBUS MUTの意味は下記とする。
MUTE: Δ A (TDA1315) のミュートON、OFF
- SM5841DのRST (リセット) はC Δ ・ Δ A切り替え時とOPT切り替え時発生する。
C Δ モードになる時は切り替えと同一タイミングでRST (リセット) が発生、 Δ Aに切り替えた時は
TDA1315 (UNLOCK=ERROR) の信号がhighになってから発生する。(常にUNLOCK信
号をチェックし信号がhighになったその都度にRST (リセット) を発生させる。)
- UNLOCK信号がLOW (ERROR) になっている区間はソフトミュートON。
- 下記にそのチャートを示す。

ミュートチャート



6. MICROPROCESSOR AND IC DATA

• Q101 TDA1302T

SYMBOL	PIN	DESCRIPTION
O4	1	output of diode current amplifier 4
O6	2	output of diode current amplifier 6
O3	3	output of diode current amplifier 3
O1	4	output of diode current amplifier 1
O5	5	output of diode current amplifier 5
O2	6	output of diode current amplifier 2
LDON	7	control pin for switching the laser ON and OFF
V _{DDL}	8	laser supply voltage
RFE	9	equalized output voltage of sum signal of amplifiers 1 to 4
RF	10	unequalized output
HG	11	control pin for gain switch
LS	12	control pin for speed switch
CL	13	external capacitor
ADJ	14	reference input normally connected to ground via a resistor
GND	15	0 V supply; substrate connection (ground)
LO	16	current output to the laser diode
MI	17	laser monitor diode input
V _{DD}	18	amplifier supply voltage
I2	19	photo detector input 2 (central)
I5	20	photo detector input 5 (satellite)
I1	21	photo detector input 1 (central)
I3	22	photo detector input 3 (central)
I6	23	photo detector input 6 (satellite)
I4	24	photo detector input 4 (central)

• Q106/Q107/Q108 TDA7073A

SYMBOL	PIN	DESCRIPTION
IN1-	1	negative input 1
IN1+	2	positive input 1
n.c.	3	not connected
n.c.	4	not connected
V _p	5	positive supply voltage
IN2+	6	positive input 2
IN2-	7	negative input 2
n.c.	8	not connected
OUT2+	9	positive output 2
GND2	10	ground 2
n.c.	11	not connected
OUT2-	12	negative output 2
OUT1-	13	negative output 1
GND1	14	ground 1
n.c.	15	not connected
OUT1+	16	positive output 1

• QS01 PC74HC257

PIN NO.	SYMBOL	NAME AND FUNCTION
1	S	common data select input
2, 5, 14, 11	I ₀ to 4I ₀	data inputs from source 0
3, 6, 13, 10	I ₁ to 4I ₁	data inputs from source 1
4, 7, 12, 9	1Y to 4Y	3-state multiplexer outputs
8	GND	ground (0 V)
15	OE	3-state output enable input (active LOW)
16	V _{CC}	positive supply voltage

• Q102 SAA7372GP

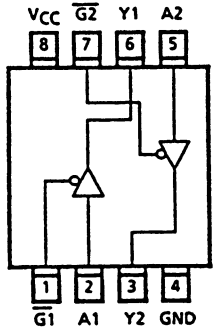
SYMBOL	PIN	DESCRIPTION
V _{SSA1}	1	analogue supply*
V _{DDA1}	2	analogue supply*
D1	3	unipolar current input (central diode signal input)
D2	4	unipolar current input (central diode signal input)
D3	5	unipolar current input (central diode signal input)
V _{RL}	6	reference input for ADC
D4	7	unipolar current input (central diode signal input)
R1	8	unipolar current input (satellite diode signal input)
R2	9	unipolar current input (satellite diode signal input)
IREFT	10	current reference for calibration ADC
V _{RH}	11	reference output from ADC
V _{SSA2}	12	analogue supply*
SELPLL	13	selects whether internal clock multiplier PLL is used
ISLICE	14	current feedback from data slicer
HFIN	15	comparator signal input
V _{SSA3}	16	analogue supply*
HFREF	17	comparator common mode input
IREF	18	reference current pin (nominally V _{DD} /2)
V _{DDA2}	19	analogue supply*
TEST1	20	test control input; this pin should be tied LOW
CRIN	21	crystal/resonator input
CROUT	22	crystal/resonator output
TEST2	23	test control input; this pin should be tied LOW
CL16	24	16.9344 MHz system clock output
CL11	25	11.2896 MHz clock output
RA	26	radial actuator output
FO	27	focus actuator output
SL	28	sledge control output
TEST3	29	test control input; this pin should be tied LOW
V _{DD1P}	30	digital supply periphery*
DOBM	31	bi-phase mark output (externally buffered) (tri-state)
V _{SS1}	32	digital supply*
MOTO1	33	motor out 1 - versatile (tri-state)
MOTO2	34	motor out 2 - versatile (tri-state)
SBSY	35	subcode byte sync (tri-state)
SFSY	36	subcode frame sync (tri-state)
RCK	37	subcode clock input
SUB	38	P to W subcode bits (tri-state)
V _{SS2}	39	digital supply
V5	40	versatile output pin
V4	41	versatile output pin
V3	42	versatile output pin (open drain)
KILL	43	kill output - programmable (open drain)
MISC	44	general purpose DAC output (tri-state)
DATA	45	serial data output (tri-state)
WCLK	46	word clock output (tri-state)
V _{DD2P}	47	digital supply periphery*
SCLK	48	serial bit clock output (tri-state)
V _{SS3}	49	digital supply*
CL4	50	4.2336 MHz μ P clock output
SDA	51	μ P interface data I/O line (open drain output)
SCL	52	μ P interface clock line
RAB	53	μ P interface R/W and load control line (decoder part)
SILD	54	μ P interface R/W and load control line (servo part)
N/C	55	No connection
V _{SS4}	56	digital supply*
RESET	57	power-on reset input (active low)
STATUS	58	request line/status register output (open drain)
V _{DD3C}	59	digital supply core*
C2FAIL	60	indication of correction failure (open drain)
CFLG	61	correction flag output (open drain)
V1	62	versatile input pin
V2	63	versatile input pin
LDON	64	laser drive on output (open drain)

* Note: All supply pins must be connected to the same external power supply voltage.

• Q306 TC7W125FU

INPUTS		OUTPUTS
G	A	Y
H	X	Z
L	L	L
L	H	H

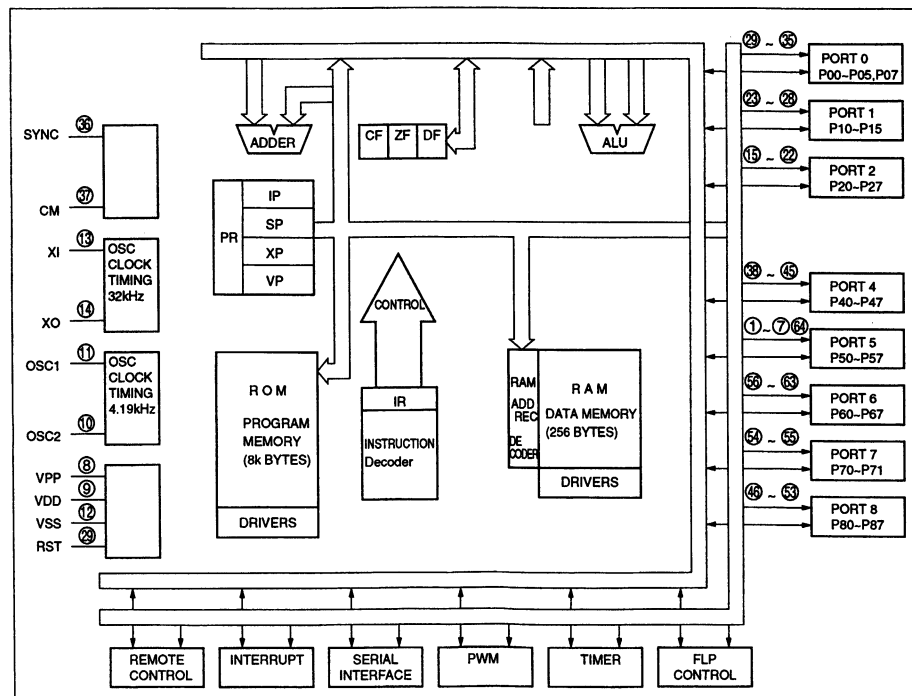
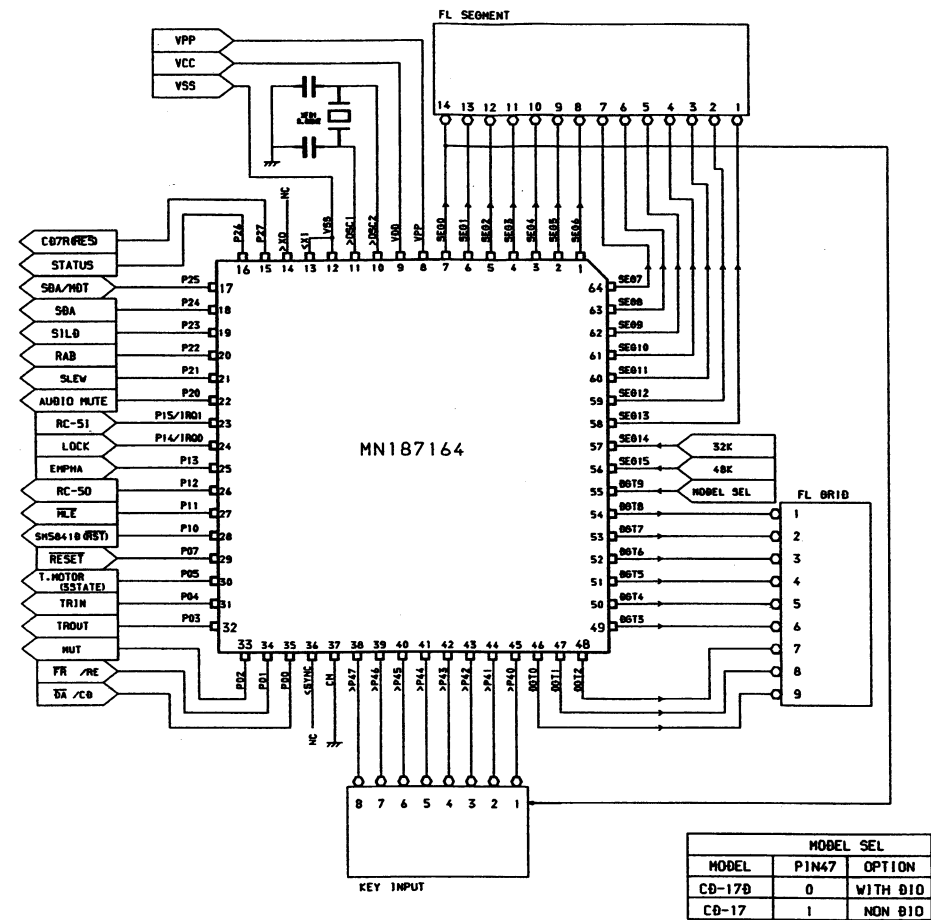
X : Don't Care
Z : High Impedance



• Q307 TDA1315H

SYMBOL	PIN	PADCELL	DESCRIPTION
RC _{fil}	1	E029	PLL loop filter input
V _{ref}	2	E029	decoupling internal reference voltage output
V _{DDA}	3	E008	analog supply voltage
V _{SSA}	4	E004	analog ground
IECIN1	5	E007	high sensitivity IEC input
IECIN0	6	IPP04	TTL level IEC input
IECSEL	7	IUP04	select IEC input 0 or 1 (0 = IECIN0; 1 = IECIN1); this input has an internal pull-up resistor
IECO	8	OPFH3	digital audio output for optical and transformer link
IECOEN	9	IUP04	digital audio output enable (0 = enabled; 1 = disabled/3-state); this input has an internal pull-up resistor
TESTB	10	IPP04	enable factory test input (0 = normal application; 1 = scan mode)
TESTC	11	IPP04	enable factory test input (0 = normal application; 1 = observation outputs)
UNLOCK	12	OPP41A	PLL out-of-lock (0 = not locked; 1 = locked); this output can drive an LED
FS32	13	OPP41A	indicates sample frequency = 32 kHz (active LOW); this output can drive an LED
FS44	14	OPP41A	indicates sample frequency = 44.1 kHz (active LOW); this output can drive an LED
FS48	15	OPP41A	indicates sample frequency = 48 kHz (active LOW); this output can drive an LED
CHMODE	16	OPP41A	use of channel status block (0 = professional use; 1 = consumer use); this output can drive an LED
V _{DDD2}	17	E008	digital supply voltage 2
V _{SSD2}	18	E009	digital ground 2
RESET	19	IDP09	initialization after power-on, requires only an external capacitor connected to V _{DDD} ; this is a Schmitt-trigger input with an internal pull-down resistor
PD	20	IPP04	enable power-down input in the standby mode (0 = normal application; 1 = standby mode)
CTRLMO DE	21	IUP04	select microcontroller/stand-alone mode (0 = microcontroller; 1 = stand-alone); this input has an internal pull-up resistor
LADDR	22	IPP04	microcontroller interface address switch input (0 = 000001; 1 = 000010)
LMODE	23	IPP09	microcontroller interface mode line input
LCLK	24	IPP09	microcontroller interface clock line input
LDATA	25	IOF24	microcontroller interface data line input/output
STROBE	26	IDP04	strobe for control register (active HIGH); this input has an internal pull-down resistor
UDAVAIL	27	OPF23	synchronization for output user data (0 = data available; 1 = no data)
TESTA	28	IPP04	enable factory (scan) test input (0 = normal application; 1 = test clock enable)
COPY	29	OPP41A	copyright status bit (0 = copyright asserted; 1 = no copyright asserted); this output can drive an LED
INVALID	30	IOD24	validity of audio sample input/output (0 = valid sample; 1 = invalid sample); this pin has an internal pull-down resistor
DEEM	31	OPF23	pre-emphasis output bit (0 = no pre-emphasis; 1 = pre-emphasis)
MUTE	32	IUP04	audio mute input (0 = permanent mute; 1 = mute on receive error); this pin has an internal pull-up resistor
I ² ssel	33	IUP04	select auxiliary input or normal input in transmit mode
SDAUX	34	IPP04	auxiliary serial data input; I ² S-bus
SD	35	IOF24	serial audio data input/output; I ² S-bus
WS	36	IOF24	word select input/output; I ² S-bus
SCK	37	IOF29	serial audio clock input/output; I ² S-bus
I ² SOEN	38	IUP04	serial audio output enable (0 = enabled; 1 = disabled/3-state); this input has an internal pull-up resistor
SYSCLKI	39	IPP09	system clock input (transmit mode)
SYSCLKO	40	OPFA3	system clock output (receive mode)
V _{SSD1}	41	E009	digital ground 1
V _{DDD1}	42	E008	digital supply voltage 1
CLKSEL	43	IUP04	select system clock (0 = 384f _s ; 1 = 256f _s); this input has an internal pull-up resistor
RC _{int}	44	E029	integrating capacitor output

• QY03 MN187164MXK(MICROPROCESSOR)



• QY03 MN187164MXK(MICROPROCESSOR)

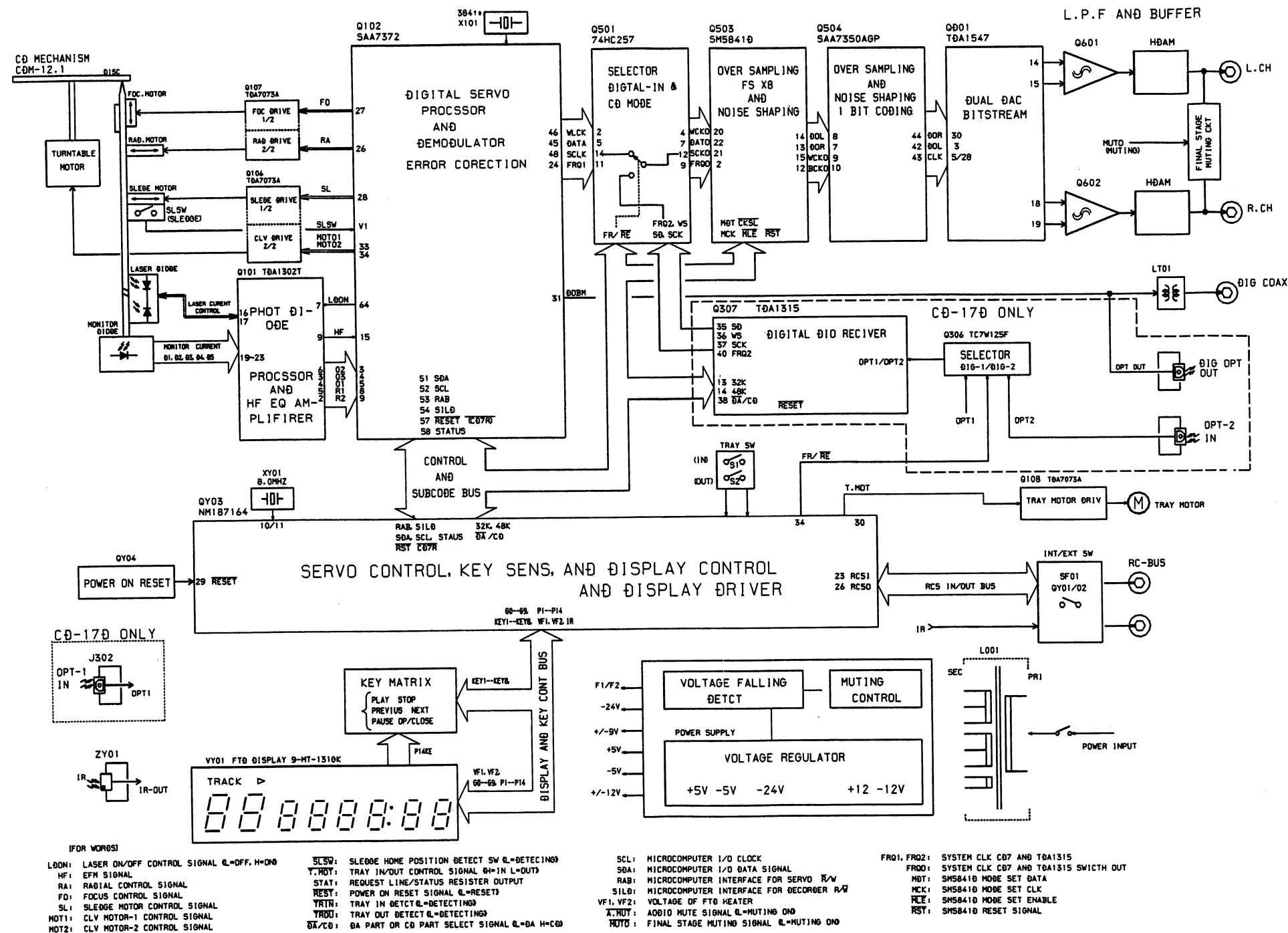
PIN NO	PORT NAME	I/O	ACT	FUNCTION
1	P56 (SEG6)	O	X	FL SEGMENT DATA,P8
2	P55 (SEG5)	O	X	FL SEGMENT DATA,P9
3	P54 (SEG4)	O	X	FL SEGMENT DATA,P10
4	P53 (SEG3)	O	X	FL SEGMENT DATA,P11
5	P52 (SEG2)	O	X	FL SEGMENT DATA,P12
6	P51 (SEG1)	O	X	FL SEGMENT DATA,P13
7	P50 (SEG0)	O	X	FL SEGMENT DATA,P14
8	VPP	I	-25	POWER SUPPLY -25V,VFTD
9	VDD	I	+5	POWER SUPPLY +5V
10	OSC2	O	X	CLOCK OUT(8.0MHZ)
11	OSC1	I	X	CLOCK IN (8.0MHZ)
12	VSS	I	L	GND
13	XI	I	L	GND
14	XO	I	X	NOT USED
15	P27	O	H	CD7 RESET(LOW RESET)
16	P26	I	X	NOT USED
17	P25	O	X	DATA BUS DATA
18	P24	O	X	DATA BUS CLOCK
19	P23	O	X	DATA BUS R/W AND LORD CONTROL SERVO
20	P22	O	X	DATA BUS R/W AND LORD CONTROL DECODER
21	P21	O	H	SLEDGE SW L:IN END
22	P20	O	H	A. MUTE L: MUTED
23	P15	I	H	RC-S DATA INPUT
24	P14	I	H	TDA1315 UNLOCK SIGNAL L: UNLOCK
25	P13	I	L	TDA1315 EMPHA SIGNAL H: EMPHASISS ON
26	P12	O	H	RC-S DATA OUTPUT
27	P11	O	X	SM5841 LACH ENABLE
28	P10	O	H	SM5841 RESET SIGNAL
29	P07	I	H	RESET INPUT
30	P05	O	M	TRAY MOTOR CONTROL SIGNAL
31	P04	I	L	TRAY IN/OUT DETECT SW L:IN END
32	P03	I	H	TRAY IN/OUT DETECT SW L:OUT END
33	P02	O	H	TDA1315 MUTING SIGNAL
34	P01	I	X	DIGITAL INPUT SELECT L: FRONT H: REAR
35	P00	I	H	MODE SELECT DIGITAL OR CD
36	SYNC	I	-	NOT USED
37	CM	I	L	GND
38	P47	I	X	KEY INPUT,KEY 8
39	P46	I	X	KEY INPUT,KEY 7
40	P45	I	X	KEY INPUT,KEY 6
41	P44	I	X	KEY INPUT,KEY 5
42	P43	I	X	KEY INPUT,KEY 4
43	P42	I	X	KEY INPUT,KEY 3
44	P41	I	X	KEY INPUT,KEY 2
45	P40	I	X	KEY INPUT,KEY 1
46	P87	O	X	FL DIGIT DATA,G9
47	P86	O	X	FL DIGIT DATA,G8
48	P85	O	X	FL DIGIT DATA,G7
49	P84	O	X	FL DIGIT DATA,G6
50	P83	O	X	FL DIGIT DATA,G5
51	P82	O	X	FL DIGIT DATA,G4
52	P81	O	X	FL DIGIT DATA,G3
53	P80	O	X	FL DIGIT DATA,G2
54	P71	O	X	FL DIGIT DATA,G1
55	P70	I	X	MODEL SELECT L: CD-17DF H: CD-17
56	P67	I	X	SAMPLING SIGNAL L=48KHZ RECIVE
57	P66	I	X	SAMPLING SIGNAL L=32KHZ RECIVE
58	P65 (SEG13)	O	X	FL SEGMENT DATA,P1
59	P64 (SEG12)	O	X	FL SEGMENT DATA,P2
60	P63 (SEG11)	O	X	FL SEGMENT DATA,P3
61	P62 (SEG10)	O	X	FL SEGMENT DATA,P4
62	P61 (SEG9)	O	X	FL SEGMENT DATA,P5
63	P60 (SEG8)	O	X	FL SEGMENT DATA,P6
64	P57 (SEG7)	O	X	FL SEGMENT DATA,P7

• Q503 SM5841D

PIN NO.	PIN NAME	I/O	FUNCTION
1	CKSL	IP(*)	NORMAL/DOUBLE SPEED MODE SELECT. (NORMAL MODE AT CKSL=H) (DOUBLE SPEED MODE AT CKSL=L)
2	XTI	I	OSC INPUT TERMINAL (IN CD SYSTEM, 16.9344MHz FIXED) (384fs=16.9344MHz @ fs=44kHz AT CKSL=H) (192fs=16.9344MHz @ fs=88.2kHz AT CKSL=L)
3	XTO	O	OSC OUTPUT TERMINAL
4	CKO	O	OSC OUTPUT CLOCK (FREQUENCY IS SAME AS SHOWN IN XTI TERMINAL)
5	VSS	I	GND TERMINAL
6	(NC)	I	
7	(NC)	I	
8	MDT	IP	MODE SET DATA PERFORMS SETTING FOR DIGITAL
9	MCK	IP	MODE SET CLOCK ATTENUATOR AND MODE FLAG
10	MLE	IP	MODE SET LATCH ENABLE RESISTOR.
11	RST	IP	SYSTEM RESET (INITIALIZATION)
12	BCKO	O	OUTPUT BIT CLOCK
13	DOR	O	RCH DATA OUTPUT (AT OMOD FLAG=L; 8fs DATA OUTPUT) (AT OMOD FLAG=H; 4fs DATA OUTPUT)
14	DOL	O	LCH DATA OUTPUT (AT OMOD FLAG=L; 8fs DATA OUTPUT) (AT OMOD FLAG=H; 4fs DATA OUTPUT)
15	WCKO	O	OOUPUT WORD CLOCK
16	VDD	I	POWER SUPPLY TERMINAL (5V)
17	(NC)	I	
18	(NC)	I	
19	(NC)	I	
20	LRCI	IP	INPUT DATA SAMPLING RATE (fs) CLOCK
21	BCKI	IP	INPUT BIT CLOCK
22	DIN	IP	INPUT DATA

(*) IP STANDS FOR INPUT TERMINAL WITH A PULL-UP RESISTOR. ACCORDING BY, IT CAN BE OPENED IN H LEVEL SETTING.

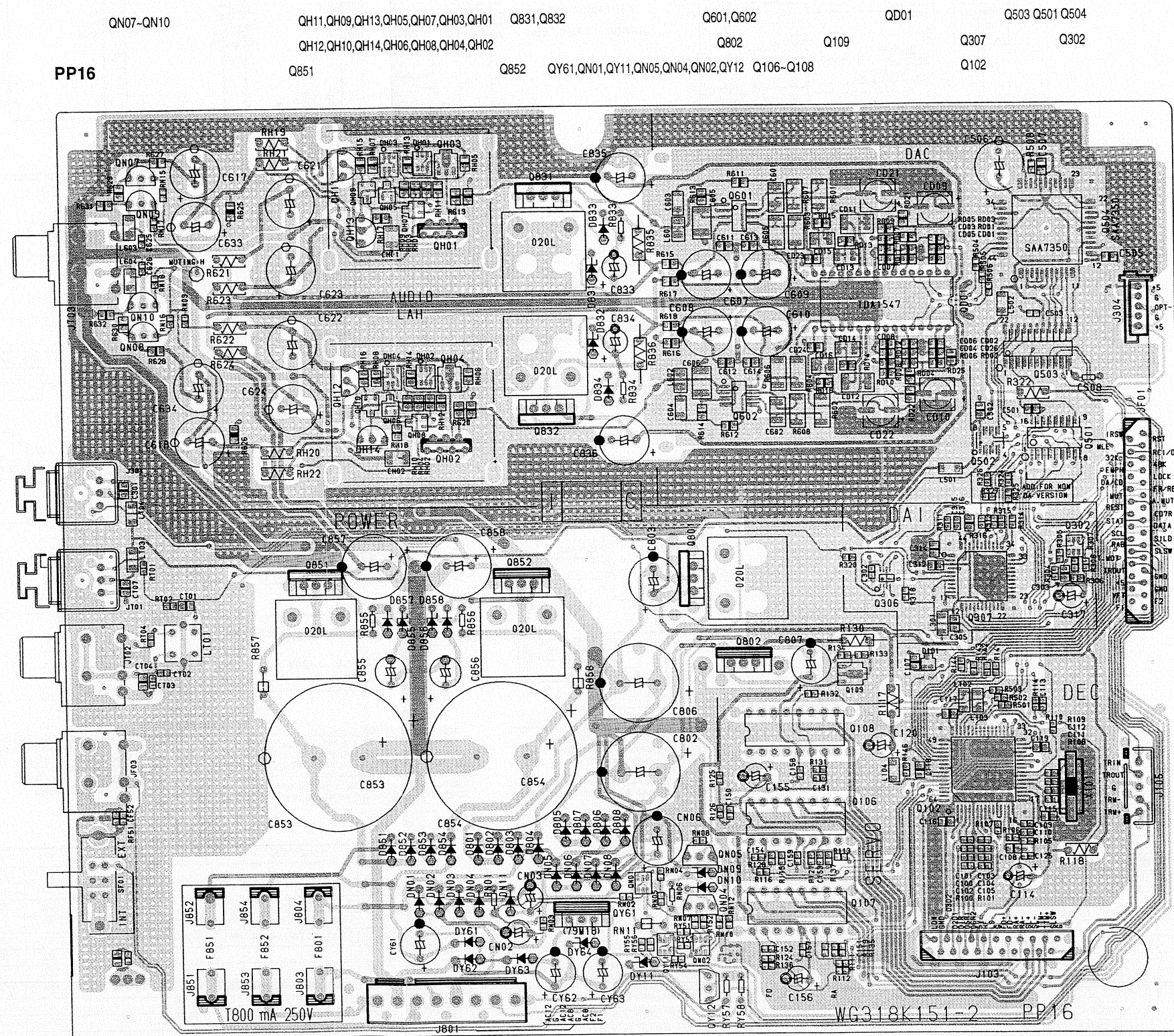
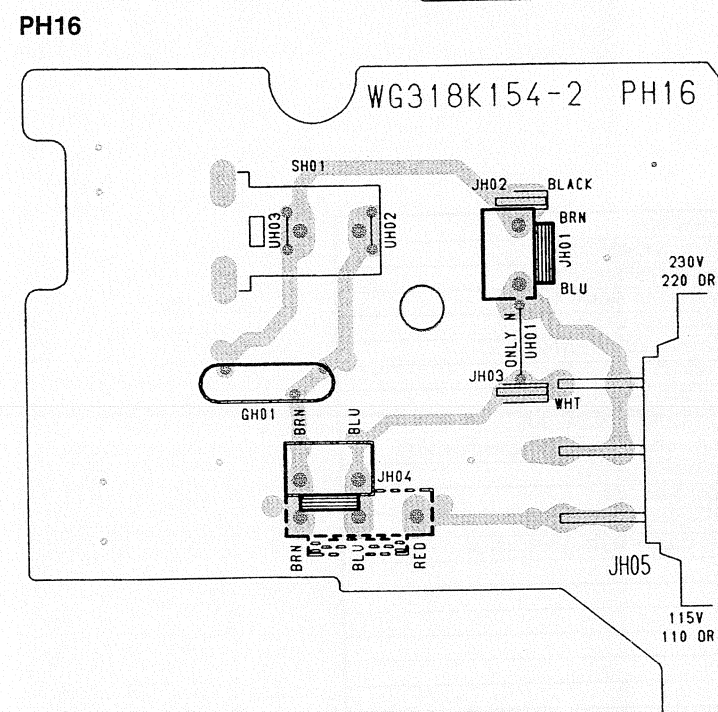
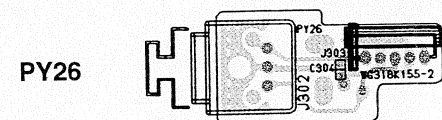
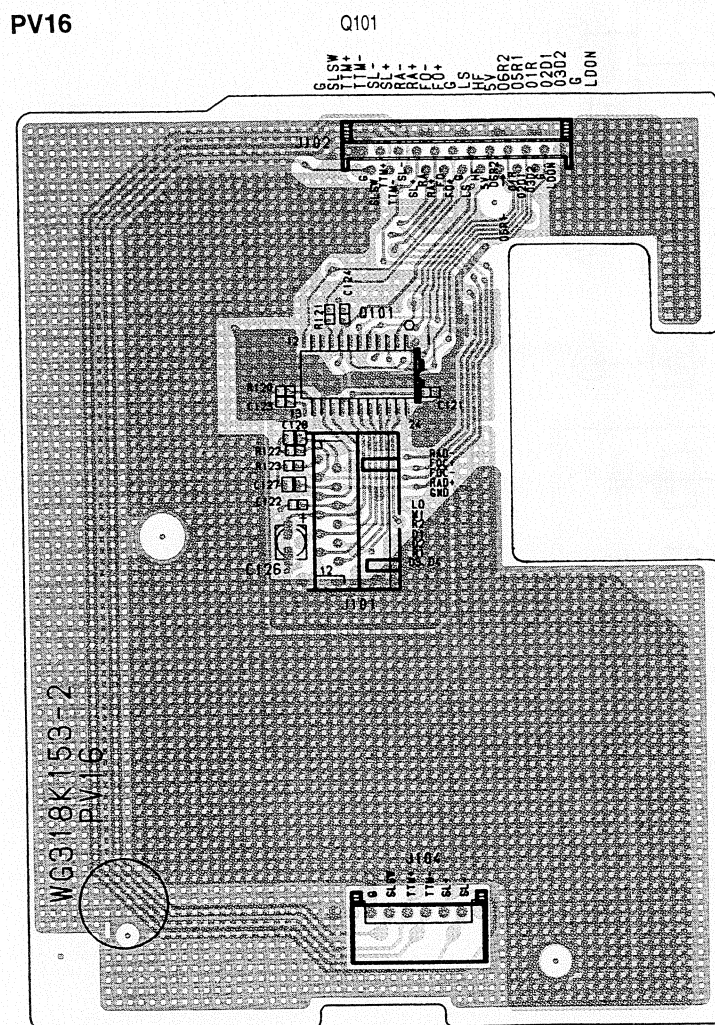
7. BLOCK DIAGRAM

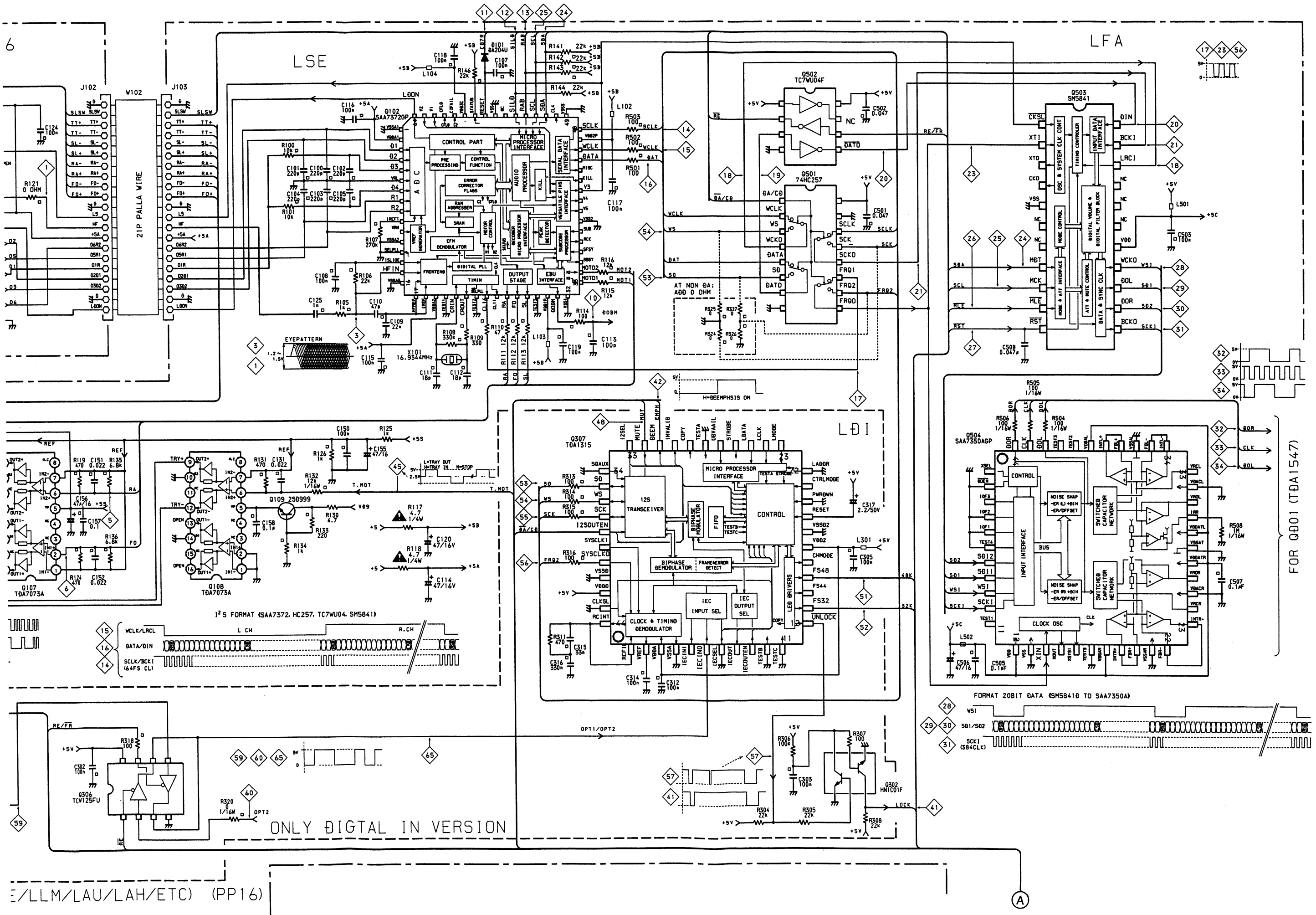


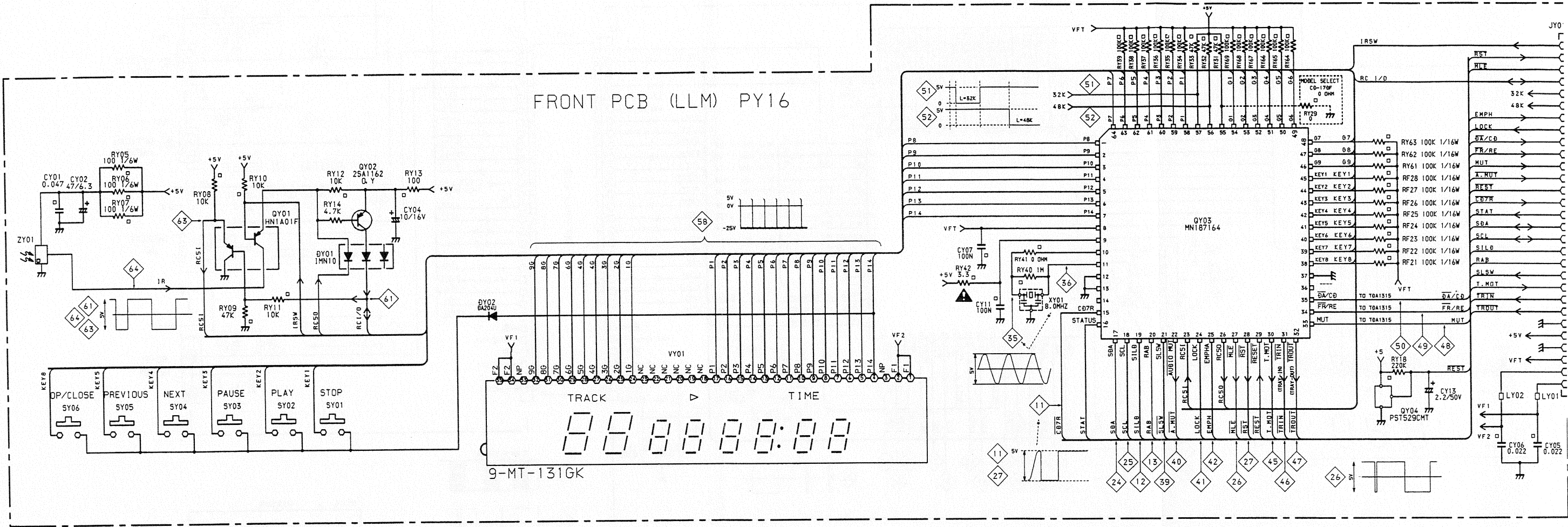
8. FLAG NO.

NO	ITEM	FUNCTION	NO	ITEM	FUNCTION	NO	ITEM	FUNCTION
0	MT-OUT	MOTOR DRIVE OUTPUT	19	DATO	SERIAL DATA SWITCH OUT	38		
1	HF OUT	TDA1302T HF SIGNAL OUT	20	DATO/DIN	INV SERIAL DATO DATA	39	SLSW	SLEDGE SW L: IN END
2			21	BCKI/SCKO	SERIAL DATA BIT CLOCK SWITCH OUT	40	A.MUTE	AUDIO MUTE L: MUTED
3	HF HPF	HF SIGNAL HPF OUT	22			41	LOCK	DELAY UNLOCK SIGNAL L: UNLOCK H: LOCK
4			23	FRQO	SYSTEM CLOCK SWITCH OUT (16.9344MHZ)	42	EMPH	TDA1315 EMPHA SIGNAL H: EMPHASIS ON
5	RA	RADIAL MOTOR CONT PULSE(PDM)	24	SDA	MPU CONTROL DATA FOR CD7 AND SM5841D	43		
6	FO	FOCUS MOTOR CONT PULSE(PDM)	25	SCL	MPU CONTROL CLOCK FOR CD7 AND SM5841D	44		
7	SL	SLEDGE MOTOR CONT PULSE(PDM)	26	MLE	LACH CLOCK FOR DATA SM5741D	45	T.MOT	TRAY MOTOR CONTROL SIGNAL
8	MOTO1	TURNTABLE CONT PULSE(PDM)	27	RST	MPU CONTROL RESET PULSE FOR SM5841D	46	TRIN	TRAY IN/OUT DETECT SW L: IN END
9	MOTO2	TURNTABLE CONT PULSE(PDM)	28	WSI	X8 FS WORD CLOCK(352.8KHZ)	47	TROUT	TRAY IN/OUT DETECT SW L: OUT END
10	DOBM	DIGITAL OUTPUT SIGNAL	29	SD1	X8 DIGITAL FILTERING DATA-1	48	MUT	TDA1315 MUTING SIGNAL
11	CD7R	CD7 RESET PULSE	30	SD2	X8 DIGITAL FILTERING DATA-2	49	FR/RE	DIGITAL INPUT SELECT L: FRONT H: REAR
12	SILD	DATA BUS R/W AND LORD CONTROL SERVO	31	SCKI	X8 DIGITAL FILTERING DATA CLOCK	50	DA/CD	MODE SELECT DIGITAL OR CD
13	RAB	DATA BUS R/W AND LORD CONTROL DECODER	32	DOR	1 BIT DATA R	51	48K	INDICATES SAMPLE FREQUENCY=48KHZ(ACTIVE LOW)
14	SCLK	AUDIO SERIAL DATA CLOCK	33	CLK	1 BIT DATA CLOCK OUT	52	32K	INDICATES SAMPLE FREQUENCY=44.1KHZ(ACTIVE LOW)
15	WCLK	AUDIO WORD CLOCK	34	DOL	1 BIT DATA L	53	SD	SERIAL AUDIO DATA INPUT/OUTPUT; I2S-BUS
16	DAT	AUDIO I2S DATA	35	OSC2	CLOCK OUT (8.0MHZ)	54	WS	WORD SELECT INPUT/OUTPUT; I2S-BUS
17	CL16/FRQ1	SYSTEM CLOCK 16.9344MHZ	36	OSC1	CLOCK IN (8.0MHZ)	55	SCK	SERIAL AUDIO CLOCK INPUT/OUTPUT; I2S-BUS
18	WCKO/LRCI	WORD CLOCK SWITCH OUT	37			56	FRQ2	TDA1315H SYSTEM CLOCK OUTPUT
						57	UNLOCK	PLL OUT-OF-LOCK(0=NOT LOCKED)
						58	FLGS	FL GRID AND SEGMENT DRIVE
						59	OPT1	OPTICAL INPUT SIGNAL 1
						60	OPT2	OPTICAL INPUT SIGNAL 2
						61	RC I/O	RC-5 SIGNAL INPUT/OUTPUT
						62	IRSW	RC-5 INT/EXT SELECT SW
						63	RC5I	RC-5 SIGNAL MPU INPUT
						64	IR	RC-5 IR RECEIVE SIGNAL OUT
						65	OPT1/OPT2	OPTICAL INPUT SIGNAL 1 OR 2 SWITCH OUT
						66	LPFO	AUDIO SIGNAL LPF OUT
						67	LROUT	AUDIO SIGNAL OUT
						68	MUTO	AUDIO SIGNAL KILL OUTPUT
						69	PWMU	POWER ON/OFF MUTING SET SIGNAL
						70		
						71		
						72		
						73		
						74		
						75		

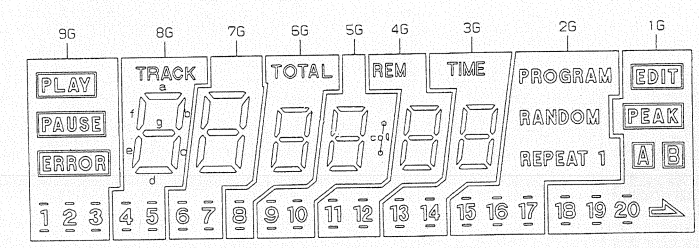
PV16







FL DISPLAY TERMINAL CONNECTION

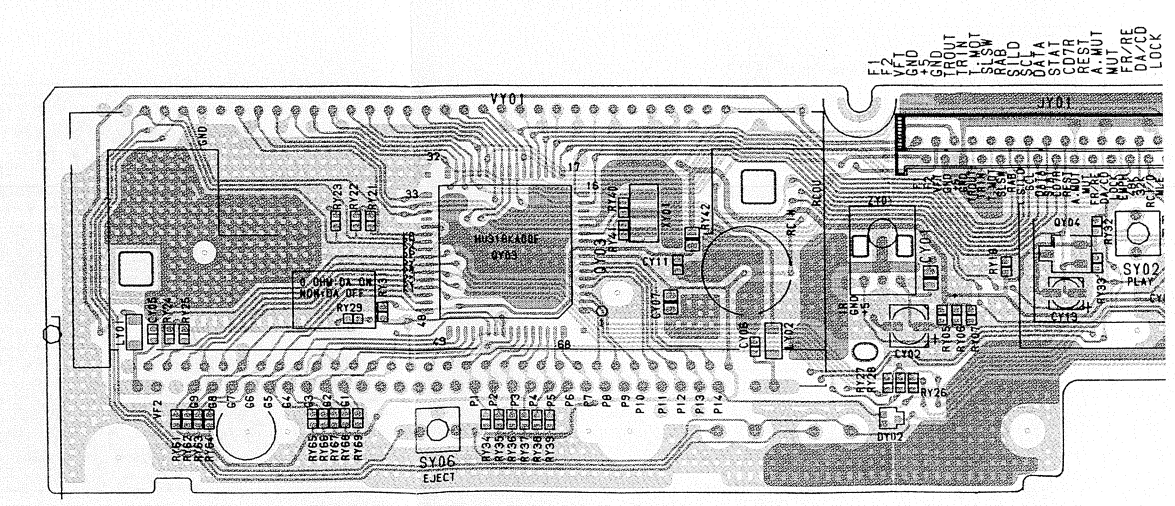


INTERNAL CONNECTION

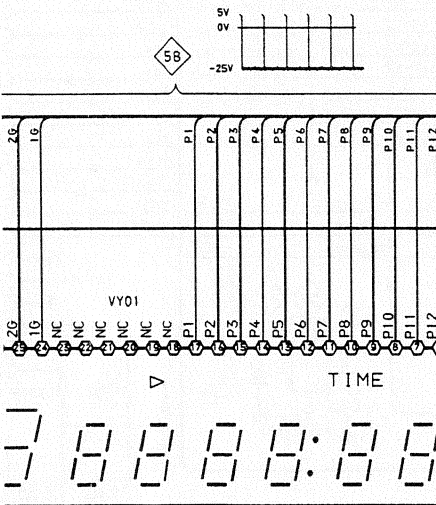
ANODE CONNECTION													
	9G	8G	7G	6G	5G	4G	3G	2G	1G				
P1	-	a	a	a	a	a	a	PROGRAM	PEAK				
P2	(1)	b	b	b	b	b	b	15	18				
P3	(1)	c	c	c	c	c	c	(15)	(18)				
P4	(1)	d	d	d	d	d	d	1	1				
P5	-	e	e	e	e	e	e	REPEAT	B				
P6	ERROR	f	f	f	f	f	f	-	A				
P7	(2)	g	g	g	g	g	g	(15)	(18)				
P8	(2)	(4)	-	TOTAL	col	REM	(13)	(16)	(19)				
P9	(2)	4	(6)	-	(9)	(11)	13	16	19				
P10	(3)	(4)	6	(8)	9	11	(13)	(16)	(19)				
P11	3	(5)	(6)	8	(9)	(11)	(14)	(17)	(20)				
P12	(3)	5	(7)	(8)	(10)	(12)	14	17	20				
P13	PLAY	(5)	7	-	10	12	(14)	(17)	(20)				
P14	PAUSE	TRACK	(7)	-	(10)	(12)	TIME	RANDOM	EDIT				

9-MT-131GK
ANODE CONNECTION

PY16



PCB (LLM) PY16

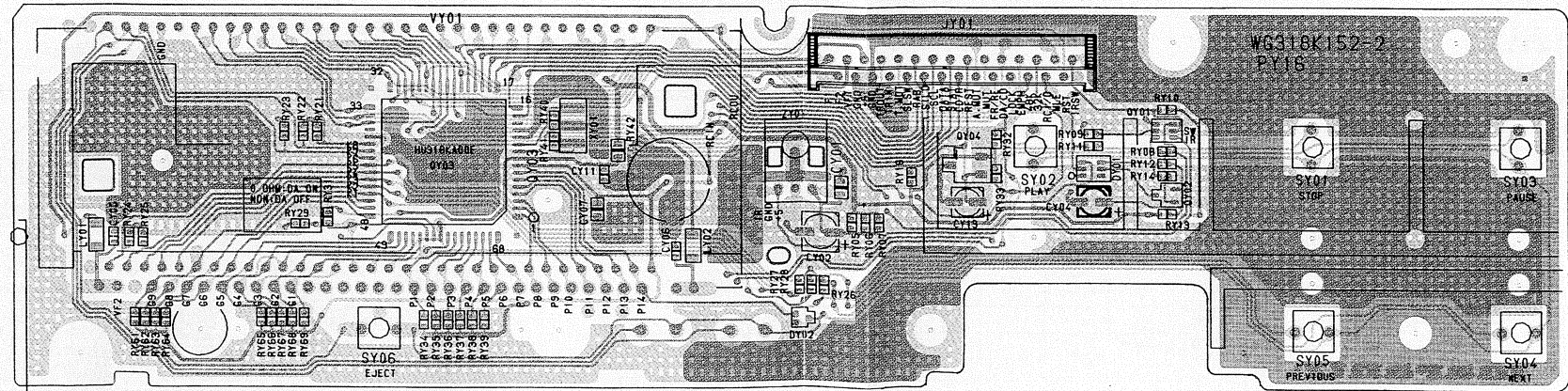


TION

	6G	5G	4G	3G	2G	1G
a	a	a	a	a	PROGRAM	PEAK
b	b	b	b	b	13	18
c	c	c	c	c	(15)	(18)
d	d	d	d	d	1	
e	e	e	e	e	REPEAT	
f	f	f	f	f		
g	g	g	g	g	(15)	(18)
TOTAL	co1	REM	(13)	(15)	(19)	
-	(5)	(11)	13	15	19	
(8)	9	11	(13)	(16)	(19)	
(8)	(9)	(11)	(14)	(17)	(20)	
(8)	(10)	(12)	14	17	20	
-	10	12	(14)	(17)	(20)	
(10)	(12)	TIME	RANDOM	EDIT		

9-MT-131GK
ANODE CONNECTION

PY16

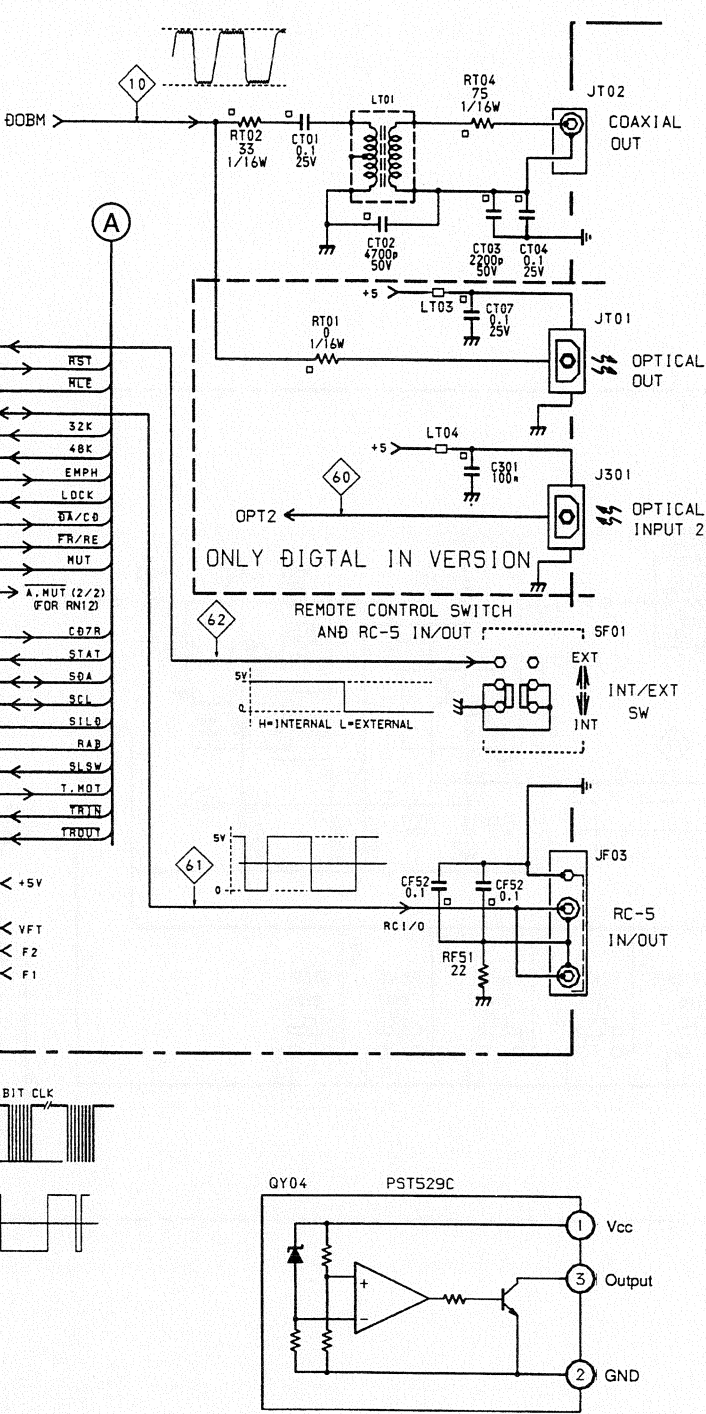


QY03

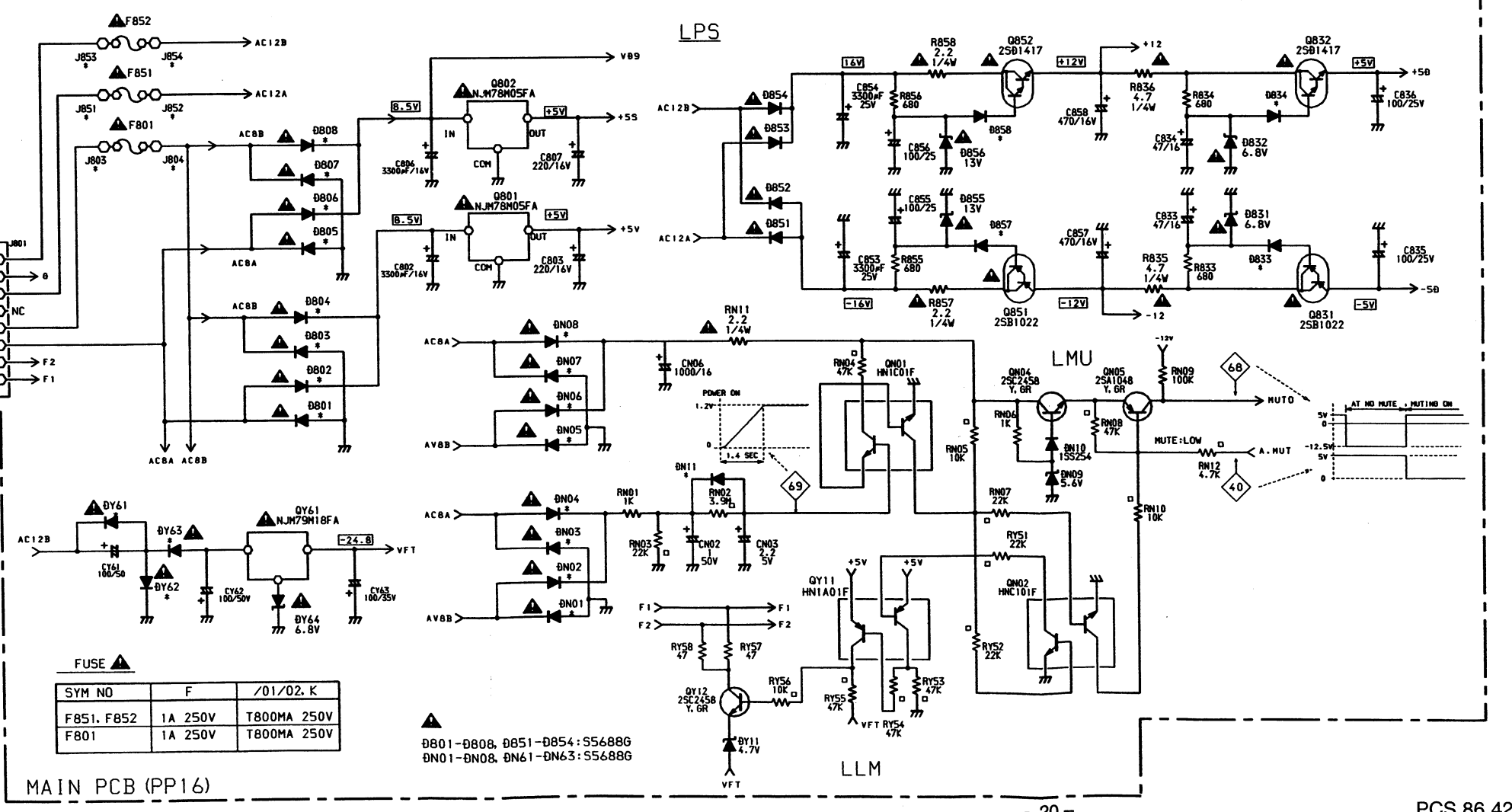
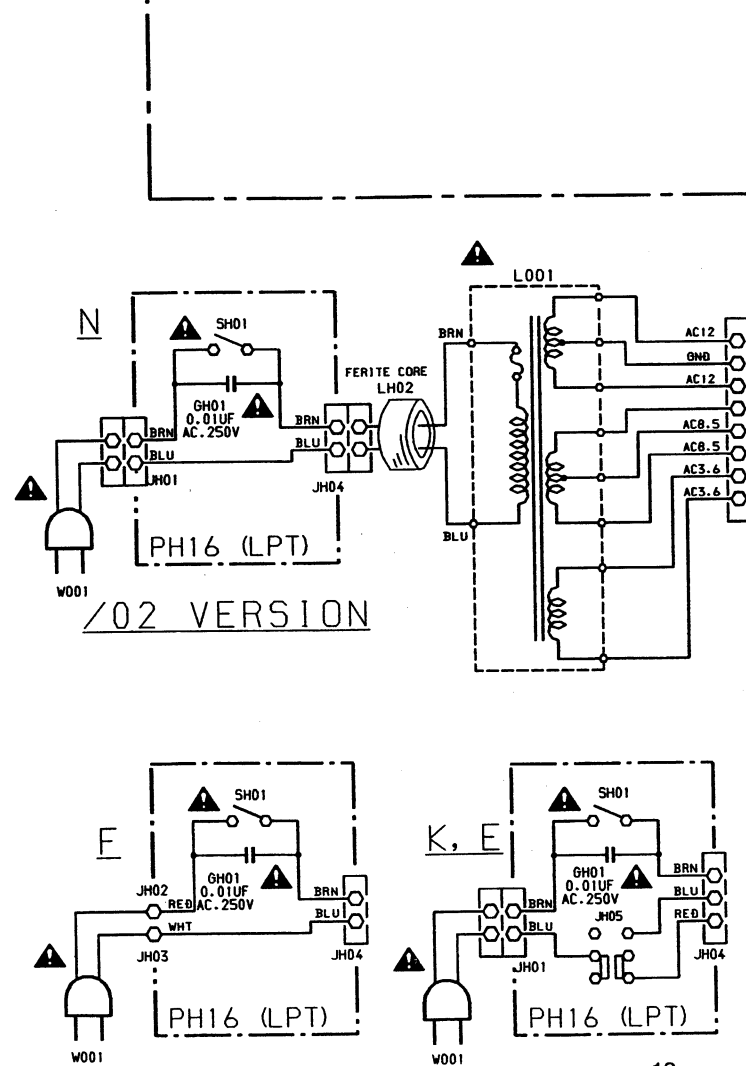
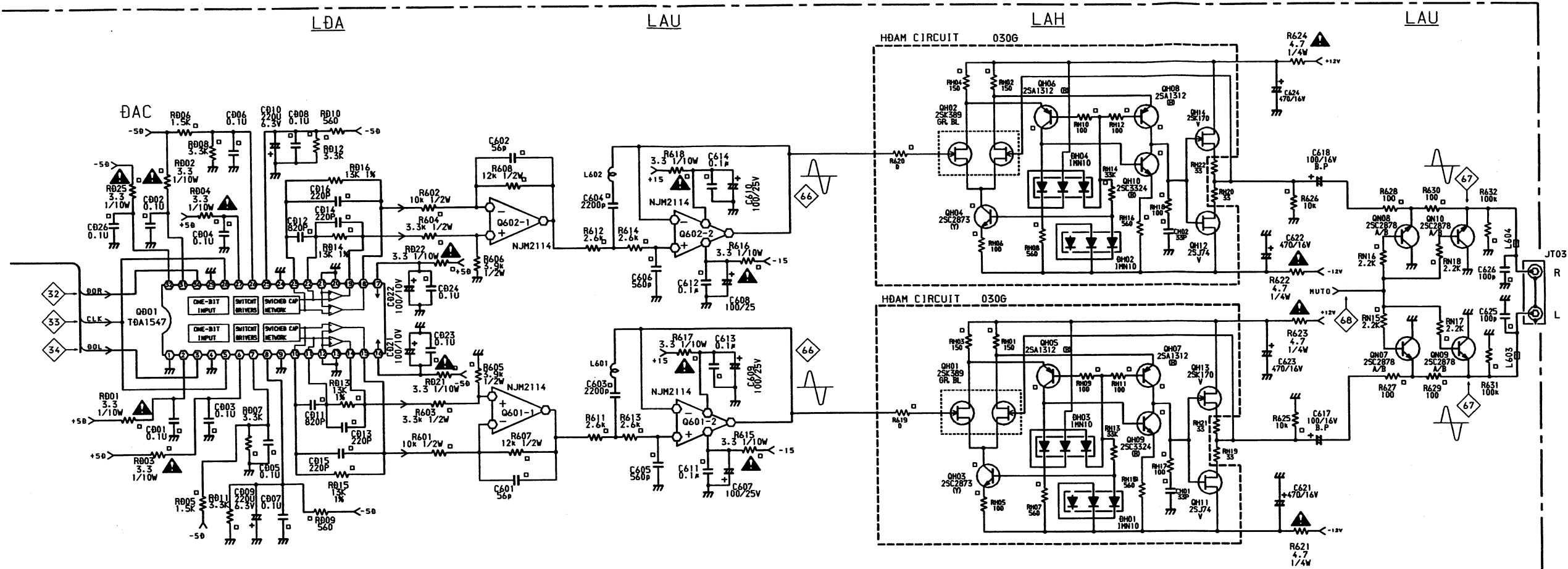
QY04

QY01

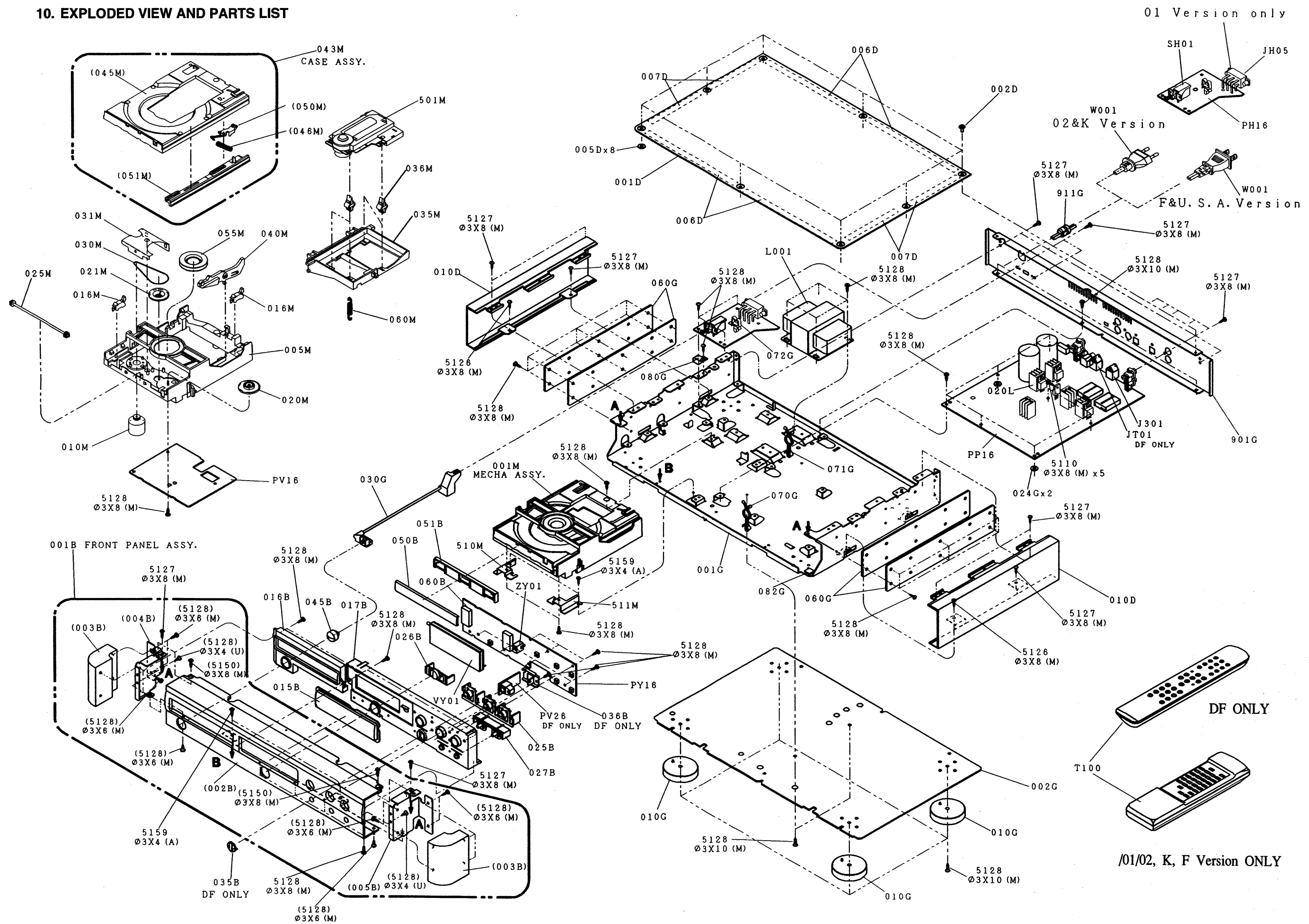
QY02



FROM Q503 (SAA7350)



10. EXPLODED VIEW AND PARTS LIST



POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)	POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
001B	/01B,/02B,FB,KB		FRONT PANEL ASSY,BLK	318K248500	▲L001	/01	4822 146 21858	POWER TRANSF, 115/230V FOR E	TS17205030
001B	/02G, FG, KG		FRONT PANEL ASSY,GLD	318K248510	▲L001	F,DF		POWER TRANSF, 100V FOR F	TS17205010
001B	DFG		FRONT PANEL ASSY,CD-17D GLD	318K248530	▲L001	K		POWER TRANSF, 110V 220V	TS17205040
001B	DFB		FRONT PANEL ASSY,CD-17D BLK	318K248520	▲L001	/02	4822 146 21857	POWER TRANSF, 230VFOR N,	TS17205020
002B	/01/02B,FB,KB	4822 444 50749	FRONT PANEL AL,BLK	318K248010	▲W001	/01/02, K	4822 321 10985	AC.POWER CORD, 2.5A 250V FIX(S/N/B)	YC01800610
002B	DFG		FRONT PANEL AL, CD-17D GLD	318K248120	▲W001	F,DF		A.C.POWER CORD, 15A 125V AC CABLE(OF)	YC01800430
002B	DFB		FRONT PANEL AL, CD-17D BLK	318K248020					
002B	/02G,FG, KG	4822 444 50751	FRONT PANEL AL, GLD	318K248110				PACKING	
003B	BLACK	4822 444 40852	ESCUTCHEON, CORNER COLUMN AL,BLK	318K063010	001S	FB		PACKING CASE BLK(CD-17)	318K801010
003B	GOLD	4822 444 40853	ESCUTCHEON, CORNER COLUMN AL,GLD	318K063110	001S	FG		PACKING CASE GLD(CD-17)	318K801020
					001S	DFB		PACKING CASE BLK(CD-17D)	318K801030
					001S	DFG		PACKING CASE GLD(CD-17D)	318K801040
					002S	F		CUSHION:4 PIECE	318K809010
015B	BLACK		WINDOW,BLUE SMOKE FOR BLACK	318K158010					
015B	GOLD		WINDOW,PINK SMOKE FOR GOLD	318K158110					
016B	GOLD	4822 464 51131	BUSHING, FOR TRAY OPENING,FOR GOLD	318K259110	001T	/01/02, K	4822 736 22641	USER MANUAL CD-17(8 LANGUAGE)	318K851310
016B	BLACK	4822 464 51129	BUSHING, FOR TRAY OPENING,BLACK	318K259010	001T	F		USER MANUAL CD-17F	318K851120
					001T	DF		USER MANUAL CD-17DF	318K851110
017B	GOLD	4822 459 50978	RETAINER, FRONT PCB HOLDER,FOR GOLD	318K104110	B001	F		BATTERY SUM-3NG-2P	ZF23102000
017B	BLACK	4822 459 50977	RETAINER, FRONT PCB HOLDER,BLACK	318K104010	B001	DF		BATTERY UM-4NEPH/2S	ZF24302000
017B	DFB		FRONT PCB HOLDER,WITH TOS,BL	318K104030					
017B	DFG		FRONT PCB HOLDER,WITH TOS,GL	318K104130					
025B	BLACK	4822 410 70027	BUTTON, PLAY/STOP/PAUSE,BLACK	318K270020	J081	/01,K	4822 267 31647	JACK, AC ADAPTER CCT5902-0701	YJ04001960
025B	GOLD	4822 410 70032	BUTTON, PLAY/STOP/PAUSE,GOLD	318K270120	J082		4822 321 22611	CONNECTIVE CORD, RCA (GOLD)	ZD01100010
026B	BLACK	4822 410 70028	BUTTON, OPEN/CLOSE,BLACK	318K270030					
026B	GOLD	4822 410 70033	BUTTON, OPEN/CLOSE,GOLD	318K270130					
					T100	/01/02,F, K	4822 218 10527	UNIT K IR COMANDER (RC-63CD)	ZK286K0010
					T100	DF		UNIT K IR COMANDER (RC-D17CD)	ZK318K0010
027B	BLACK	4822 410 70029	BUTTON, TRACK,BLACK	318K270040					
027B	GOLD	4822 410 70034	BUTTON, TRACK,GOLD	318K270140					
035B	DFB		CAP, DIGITAL IN CAP BROWN	318K067110					
035B	DFG		CAP, DIGITAL IN CAP ELASTOMER GRAY	318K067010					
045B	BLACK	4822 410 70026	BUTTON, POWER,BLACK	318K270010					
045B	GOLD	4822 410 70031	BUTTON, POWER,GOLD	318K270110					
050B	BLACK	4822 444 61105	ESCUTCHEON, TRAY LID AL,BLACK	318K063030					
050B	GOLD	4822 444 61106	ESCUTCHEON, TRAY LID AL,GOLD	318K063130					
051B	BLACK		RETAINER, TRAY LID BLACK	318K104020					
051B	GOLD		RETAINER, TRAY LID RETAINER,FOR GOLD	318K104120					
001D	GOLD	4822 444 30517	LID, TOP COVER AL,GOLD	318K257110					
001D	BLACK	4822 444 30516	LID, TOP COVER AL,BLACK	318K257010					
002D	BLACK	4822 502 21693	SCREW, SYNHEAD SCREW	323S010030					
002D	GOLD		SCREW, SYNHEAD SCREW	323S010020					
005D			SPACER, TOP COVER SPACER	318K118010					
006D			SHEET, TOP COVER BUFFER.FRONT/REAR	052B107030					
007D			SHEET, TOP COVER BUFFER:SIDE	318K107010					
010D	GOLD	4822 444 40855	SIDE PANEL, GOLD	318K249110					
010D	BLACK	4822 444 40854	SIDE PANEL, BLACK	318K249010					
010G		4822 462 42236	LEG,D50/H13,AL.RING:GOLD SPIN	001D057010					
030G			LINK, POWER SW LINK	318K121010					
911G	/01/02,K	4822 532 60948	BUSHING, AC CORD (NIFCO 2271)	450H259010					
911G	F,DF	4822 532 52145	BUSHING, AC CORD	1455259210					
001M	GOLD		LOADER, MECHANISM LM-300	305K304520					
001M	BLACK	4822 691 30353	LOADER MECHANISM LM-300 BLACK	305K304510					
005M			FRAME, K	305K401500					
010M		4822 361 21741	D.C MOTOR K,	MM0030002R					
016M		4822 271 30873	MINI SWITCH	SM01020620					
020M		4822 522 33521	GEAR	305K058030					
021M		4822 528 81537	PULLEY	305K262010					
025M		4822 522 33522	GEAR, K	305K058500					
030M		4822 358 31314	BELT	305K264010					
035M		4822 443 51265	CASE	305K064110					
036M		4822 462 72118	BUFFER, SUSPENSION	305K056010					
040M		4822 402 20104	ARM	305K002010					
043M	BLACK	4822 444 50732	CASE, K BLACK	305K064500					
043M	GOLD	4822 444 50732	CASE, K BROWN	305K064510					
045M	BLACK		CASE, CASE BLACK	305K064010					
045M	GOLD	4822 444 50747	CASE, BROWN	305K064020					
046M		4822 492 33494	SPRING	305K115010					
050M		4822 528 30429	CAM	305K054010					
051M		4822 522 33519	GEAR	305K058010					
055M		4822 401 11582	CLAMPER, K	305K005500					
060M		4822 492 33495	SPRING	305K115020					
501M		4822 691 30278	MECHANISM, 3104 147 02170 CDM12.1/15A	292K304500					

11. ELECTRICAL PARTS LIST

ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R*** : (1) GD05 x x x 140, Carbon film fixed resistor, $\pm 5\%$ 1/4W
R*** : (2) GD05 x x x 160, Carbon film fixed resistor, $\pm 5\%$ 1/6W

① — Resistance value

Examples ;

① Resistance value

0.1 Ω 001	10 Ω 100	1 k Ω 102	100 k Ω 104
0.5 Ω 005	18 Ω 180	2.7 k Ω 272	680 k Ω 684
1 Ω 010	100 Ω 101	10 k Ω 103	1 M Ω 105
6.8 Ω 068	390 Ω 391	22 k Ω 223	4.7 M Ω 475

(Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

C*** : CERAMIC CAP.

(1) DD1x x x x 370, Ceramic capacitor
 Disc type
 Temp. coeff. P350 ~ N1000, 50V

① — Capacity value
 ② — Tolerance

Examples ;

① Tolerance (Capacity deviation)

$\pm 0.25\text{pF}$	0
$\pm 0.5\text{pF}$	1
$\pm 5\%$	5

*Tolerance of COMMON PARTS handled here are as follows :

0.5pF ~ 5pF.....	$\pm 0.25\text{pF}$
6pF ~ 10pF.....	$\pm 0.5\text{pF}$
12pF ~ 560pF.....	$\pm 5\%$

② Capacity value

0.5 pF.....005	3 pF.....030	100 pF.....101
1 pF.....010	10 pF.....100	220 pF.....221
1.5 pF.....015	47 pF.....470	560 pF.....561

C*** : CERAMIC CAP.

(1) DK16 x x x 300, High dielectric constant ceramic capacitor
 Disc type
 Temp. chara. 2B4, 50V

① — Capacity value

Examples ;

① Capacity value

100 pF.....101	1000 pF.....102	10000 pF.....103
470 pF.....471	2200 pF.....222	

C*** : ELECTROLY. CAP. ($\neq$), FILM CAP. ($\div$)

(1) EA x x x x x 10, Electrolytic capacitor
 One-way lead type, Tolerance $\pm 20\%$

① — Working voltage
 ② — Capacity value

Examples ;

① Capacity value

0.1 μF 104	4.7 μF 475	100 μF 107
0.33 μF 334	10 μF 106	330 μF 337
1 μF 105	22 μF 226	1100 μF 118
		2200 μF 228

② Working voltage

6.3 V.....006	25 V.....025
10 V.....010	35 V.....035
16 V.....016	50 V.....050

(2) DF15 x x x 350 — Plastic film capacitor
 DF15 x x x 310 — One-way type, Mylar $\pm 5\%$ 50V
 DF16 x x x 310 — Plastic film capacitor
 One-way type, Mylar $\pm 10\%$ 50V

① — Capacity value

Examples ;

① Capacity value

0.001 μF (1000pF).....	102	0.1 μF	104
0.0018 μF	182	0.56 μF	564
0.01 μF	103	1 μF	105
0.015 μF	153		

NOTE : 1) The above CODES (**R*****, **R*****, **C*****, **C***** and **C*****) are omitted on the schematic diagram in some case.
 2) On the occasion, be confirmed common parts on the parts list.
 3) Refer to "Common Parts List" for the other common parts (**RI05**, **DD4**, **DK4**).

NOTE ON SAFETY FOR FUSIBLE RESISTOR :

The suppliers and their type numbers of fusible resistors aer as follows ;

1. KOA Corporation

Part No.	Type No.	Description
NH05 x x x 140	RF25S x x x x Ω J	($\pm 5\%$ 1/4W)
NH05 x x x 120	RF50S x x x x Ω J	($\pm 5\%$ 1/2W)
NH85 x x x 110	RF73B2A x x x x Ω J	($\pm 5\%$ 1/10W)
NH85 x x x 140	RF73B2E x x x x Ω J	($\pm 5\%$ 1/4W)

* Resistance value * Resistance value (0.1 - 10k Ω)

2. Matsushita Electronic Components Co., Ltd

Part No.	Type No.	Description
NF05 x x x 140	ERD-2FCJ x x x	($\pm 5\%$ 1/4W)
RF05 x x x 140		
NF02 x x x 140	ERD-2FCG x x x	($\pm 2\%$ 1/4W)
RF02 x x x 140		

* Resistance value * Resistance value

Examples :

0.1 Ω 001	10 Ω 100	1 k Ω 102	100 k Ω 104
0.5 Ω 005	18 Ω 180	2.7 k Ω 272	680 k Ω 684
1 Ω 010	100 Ω 101	10 k Ω 103	1 M Ω 105
6.8 Ω 068	390 Ω 391	22 k Ω 223	4.7 M Ω 475

ABBREVIATION AND MARKS

1	ANT. : ANTENNA	2	BATT. : BATTERY
3	CAP. : CAPACITOR	4	CER. : CERAMIC
5	CONN. : CONNECTING	6	DIG. : DIGITAL
7	HP : HEADPHONE	8	MIC. : MICROPHONE
9	μ -PRO : MICROPROCESSOR	10	REC. : RECORDING
11	RES. : RESISTOR	12	SPK : SPEAKER
13	SW : SWITCH	14	TRANSF. : TRANSFORMER
15	TRIM. : TRIMMING	16	TRS. : TRANSISTOR
17	VAR. : VARIABLE	18	X'TAL : CRYSTAL
19		20	
21		22	
23		24	
25		26	
27		28	
29		30	

NOTE ON SAFETY :

Symbol **▲** Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol **▲**. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

安全上の注意 :

▲ がついている部品は、安全上重要な部品です。必ず指定されている部品番号の部品を使用して下さい。

SM950107KI

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
GH01 GH01	/01/02.K F,DF	4822 122 33276	PH16-POWER SWITCH CIRCUIT BOARD	
		4822 121 43732	PH16-CAPACITORS	
JH05 LH02	/01, K /02	4822 277 21825	PH16-MISCELLANEOUS	
			SLIDE SWITHC, SDKGA4 FERRITE CORE, TFCK-16-8-13	SS02021510 FC50160030
▲SH01		4822 276 13364	PUSH SWITCH, TV-3	SP01011990
CD01 \$			PP16-AUDIO/POWER CIRCUIT BOARD	
			PP16- CAPACITORS	
CD08		4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
CD09		4822 124 81234	TANTL. 220 μ F 6.3V CHIP	EY22700690
CD10		4822 124 81234	TANTL. 220 μ F 6.3V CHIP	EY22700690
CD11		4822 123 30363	MICA 820 PF $\pm$ 5% 100WV CHIP	DF95821510
CD12		4822 123 30363	MICA 820 PF $\pm$ 5% 100WV CHIP	DF95821510
CD13 \$		4822 123 30359	MICA 820 PF $\pm$ 5% 100WV CHIP	DF95821510
CD16				
CD21		4822 124 11432	TANTL. 100 μ F 10V CHIP	EY10701020
CD22		4822 124 11432	TANTL. 100 μ F 10V CHIP	EY10701020
CD23 \$		4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
CD26				
CF52		4822 126 11687	CER. 0.022 μ F +80%-20% 16VCHIP	DK98104200
CH01		4822 123 30422	MICA 33 PF $\pm$ 5% 500WV CHIP	DF95330500
CH02		4822 123 30422	MICA 33 PF $\pm$ 5% 500WV CHIP	DF95330500
CN02		4822 124 41543	ELECT. 1 μ F 50V	OA10505020
CN03		4822 124 90357	ELECT. 2.2 μ F 50V	OA22505020
CN06		4822 124 22722	ELECT. 1 000 μ F 16V	OA10801620
CT01		4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
CT02		4822 126 11685	CER. 4700 PF $\pm$ 10% 50V CHIP	DK96472300
CT03		4822 126 11566	CER. 2200 PF $\pm$ 10% CHIP	DK96222300
CT04		4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
CT07	DF	4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
CY61		4822 124 90355	ELECT. 100 μ F 50V	OA10705020
CY62		4822 124 90355	ELECT. 100 μ F 50V	OA10705020
CY63		4822 124 41536	ELECT. 100 μ F 35V	OA10703520
C100 \$		4822 126 11682	CER. 220 PF $\pm$ 10% CHIP	DK96221300
C105				
C107		4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
C108		4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
C109		4822 126 11567	CER. 0.022 μ F $\pm$ 10% 16V CHIP	DK96222300
C110		4822 122 33777	CER. 47 PF $\pm$ 5% 50V CHIP	DD95470300
C111		4822 122 33757	CER. 18 PF $\pm$ 5% CHIP	DD95180300
C112		4822 122 33757	CER. 18 PF $\pm$ 5% CHIP	DD95180300
C113		4822 122 33744	CER. 100 PF $\pm$ 5% 50V CHIP	DD95101300
C114		4822 124 41539	ELECT. 47 μ F 16V	OA47601620
C115 \$		4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
C119				
C120		4822 124 41539	ELECT. 47 μ F 16V	OA47601620
C121		4822 126 11687	CER. 0.1 μ F +80%-20% CHIP	DK98104200
C122		4822 126 11704	CER. 0.022 μ F +80%-20% 16V CHIP	DK98222300
C123		5322 126 11578	CER. 1000 PF $\pm$ 10% 50V CHIP	DK96102300
C124		4822 126 11687	CER. 0.1 μ F +80%-20% CHIP	DK98104200
C125		5322 126 11578	CER. 1000 PF $\pm$ 10% 50V CHIP	DK96102300
C126		4822 124 11074	TANTL. 10 μ F 16V CHIP	EY10601620
C127		4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
C128		4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
C131		4822 126 11567	CER. 0.022 μ F $\pm$ 10% 16V CHIP	DK96222300
C150		4822 126 11687	CER. 0.1 μ F +80%-20% CHIP	DK98104200
C151 \$				
C154		4822 126 11567	CER. 0.022 μ F $\pm$ 10% CHIP	DK96223200

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
C155		4822 124 41539	ELECT. 47 μ F 16V	OA47601620
C156		4822 124 41539	ELECT. 47 μ F 16V	OA47601620
C157 \$		4822 126 11687	CER. 0.1 μ F +80%-20% CHIP	DK98104200
C159				
C301	DF	4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
C302	DF	4822 126 11687	CER. 0.1 μ F +80%-20% 16VCHIP	DK98104200
C303	DF	4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
C304	DF	4822 126 11687	CER. 0.1 μ F +80%-20% 16V CHIP	DK98104200
C305	DF	4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
C312	DF	4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
C314	DF	4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
C315	DF	4822 126 12061	CER. 0.033 μ F $\pm$ 10% CHIP	DK96333200
C316	DF	4822 126 12061	CER. 0.33 μ F $\pm$ 10% 16V CHIP	DK56334200
C317	DF	4822 124 90357	ELECT. 2.2 μ F 50V	OA22505020
C501		4822 122 32669	CER. 0.047 μ F +80%-20% CHIP	DK58473300
C502		4822 122 32669	CER. 0.047 μ F +80%-20% CHIP	DK58473300
C503		4822 126 11687	CER. 0.1 μ F +80%-20% CHIP	DK98104200
C505		4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
C506	/01/02, K,F	4822 124 41539	ELECT. 47 μ F 16V	OA47601620
C506	DF	4822 124 22694	ELECT. 1000 μ F 6.3V	OA10800620
C507		4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
C508		4822 122 40589	CER. 0.47 μ F $\pm$ 20%	DA17473110
C601		4822 123 30361	MICA 56 PF $\pm$ 5% 500WV CHIP	DF95560500
C602		4822 123 30361	MICA 56 PF $\pm$ 5% 500WV CHIP	DF95560500
C603		4822 123 30387	MICA 2200 PF $\pm$ 5% CHIP	DF95222030
C604		4822 123 30387	MICA 2200 PF $\pm$ 5% CHIP	DF95222030
C605		4822 123 30362	MICA 560 PF $\pm$ 5% 100WVCHIP	DF95561510
C606		4822 123 30362	MICA 560 PF $\pm$ 5% 100WV CHIP	DF95561510
C607 \$				
C610		4822 124 22238	ELECT. 100 μ F 25V	OA10702550
C611 \$		4822 126 12061	CER. 0.1 μ F $\pm$ 10% 25V CHIP	DK56104200
C614				
C617		4822 124 81317	ELECT. 100 μ F 16V	EQ107016Q0
C618		4822 124 81317	ELECT. 100 μ F 16V	EQ107016Q0
C621 \$		4822 124 22277	ELECT. 470 μ F 16V	OA47701620
C624				
C625		4822 122 33744	CER. 100 PF $\pm$ 5% 50V CHIP	DD95101300
C626		4822 122 33744	CER. 100 PF $\pm$ 5% 50V CHIP	DD95101300
C633			JUMPER WIRE 5MM	75060501P0
C634			JUMPER WIRE 5MM	75060501P0
C802		4822 124 23782	ELECT. 3300 μ F 16V	OC33801620
C803	/01/02, K,F	4822 124 90364	ELECT. 220 μ F 16V	OA22701620
C803	DF	4822 124 22694	ELECT. 1000 μ F 6.3V	OA10800620
C806		4822 124 23782	ELECT. 3300 μ F 16V	OC33801620
C807		4822 124 90364	ELECT. 220 μ F 16V	OA22701620
C833		4822 124 41539	ELECT. 47 μ F 16V	OA47601620
C834		4822 124 41539	ELECT. 47 μ F 16V	OA47601620
C835		4822 124 22238	ELECT. 100 μ F 25V	OA10702550
C836		4822 124 22238	ELECT. 100 μ F 25V	OA10702550
C853		4822 124 81318	ELECT. 3300 μ F 25V	OB33802510
C854		4822 124 81318	ELECT. 3300 μ F 25V	OB33802510
C855		4822 124 41535	ELECT. 100 μ F 25V	OA10702520
C856		4822 124 41535	ELECT. 100 μ F 25V	OA10702520
C857		4822 124 22277	ELECT. 470 μ F 16V	OA47701620
C858		4822 124 22277	ELECT. 470 μ F 16V	OA47701620
▲RD01 \$			PP16-RESISTORS	
▲RD04		4822 117 10145	FUSE 3.3 Ω $\pm$ 5% 1/10W	NH85033110
RD05		4822 116 83253	CHIP 1.5K Ω $\pm$ 1% 1/10W	NI01152110
RD06		4822 116 83253	CHIP 1.5K Ω $\pm$ 1% 1/10W	NI01152110
RD07		4822 116 83255	CHIP 3.3K Ω $\pm$ 1% 1/10W	NI01332110
RD08		4822 116 83255	CHIP 3.3K Ω $\pm$ 1% 1/10W	NI01332110
RD09		4822 116 83352	CHIP 560 Ω $\pm$ 5% 1/10W	NI05561110
RD10		4822 116 83352	CHIP 560 Ω $\pm$ 5% 1/10W	NI05561110
RD11		4822 116 83255	CHIP 3.3K Ω $\pm$ 1% 1/10W	NI01332110
RD12		4822 116 83255	CHIP 3.3K Ω $\pm$ 1% 1/10W	NI01332110
RD13 \$		4822 117 11976	CHIP 13K Ω $\pm$ 1% 1/10W	NI01133110
RD16				

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)	POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
▲RD21		4822 117 10145	FUSE 3.3 Ω ± 5% 1/10W	NH85033110	R141				
▲RD22		4822 117 10145	FUSE 3.3 Ω ± 5% 1/10W	NH85033110	§		4822 051 30223	CHIP 22K Ω ± 5% 1/16W	NN05223610
▲RD25		4822 117 10145	FUSE 3.3 Ω ± 5% 1/10W	NH85033110	R144				
RF51		4822 051 30229	CHIP 22 Ω ± 5% 1/16W	NN05220610	R146		4822 051 30223	CHIP 22K Ω ± 5% 1/16W	NN05223610
RH01					R304		4822 051 30223	CHIP 22K Ω ± 5% 1/16W	NN05223610
§		4822 116 90503	CHIP 150 Ω ± 5% 1/10W	NI05151110	R305		4822 051 30223	CHIP 22K Ω ± 5% 1/16W	NN05223610
RH06					R306		4822 051 30104	CHIP 100K Ω ± 5% 1/16W	NN05104610
RH07		4822 116 83352	CHIP 560 Ω ± 5% 1/10W	NI05561110	R307		4822 051 30101	CHIP 100 Ω ± 5% 1/16W	NN05101610
RH08		4822 116 83352	CHIP 560 Ω ± 5% 1/10W	NI05561110	R308		4822 051 30223	CHIP 22K Ω ± 5% 1/16W	NN05223610
RH09					R311		4822 051 30471	CHIP 470 Ω ± 5% 1/16W	NN05471610
§		4822 111 90893	CHIP 100 Ω ± 5% 1/10W	NI05101110	R313				
RH12					§		4822 051 30101	CHIP 100 Ω ± 5% 1/16W	NN05101610
RH13			CHIP 33K Ω ± 1% 1/10W	NI01333110	R315				
RH14			CHIP 33K Ω ± 1% 1/10W	NI01333110	R316		4822 051 30101	CHIP 100 Ω ± 5% 1/16W	NN05101610
					R318		4822 051 30101	CHIP 100 Ω ± 5% 1/16W	NN05101610
RH15		4822 116 83352	CHIP 560 Ω ± 5% 1/10W	NI05561110	R320		4822 116 82487	CHIP 0 Ω ± 5% 1/16W	NN05000610
RH16		4822 116 83352	CHIP 560 Ω ± 5% 1/10W	NI05561110					
RH17		4822 111 90893	CHIP 100 Ω ± 5% 1/10W	NI05101110	R322		4822 111 90967	FUSE 4.7 Ω ± 5% 1/4W	NF05047140
RH18		4822 111 90893	CHIP 100 Ω ± 5% 1/10W	NI05101110	R324				
▲RH19					§		4822 116 82487	CHIP 0 Ω ± 5% 1/16W	NN05000610
§		4822 115 90198	FUSE 33 Ω ± 2% 1/4W	NF02330140	R327				
▲RH22					R501				
RN02		4822 117 11977	CHIP 3.9K Ω ± 5% 1/16W	NN05395610	§		4822 051 30101	CHIP 100 Ω ± 5% 1/16W	NN05101610
RN03		4822 051 30223	CHIP 22K Ω ± 5% 1/16W	NN05223610	R506				
RN04		4822 051 30473	CHIP 47K Ω ± 5% 1/16W	NN05473610	R508		4822 051 30105	CHIP 1M Ω ± 5% 1/16W	NN05105610
					R601		4822 117 11978	CHIP 10K Ω ± 5% 1/2W	RI05103120
RN05		4822 051 30103	CHIP 10K Ω ± 5% 1/16W	NN05103610	R602		4822 117 11978	CHIP 10K Ω ± 5% 1/2W	RI05103120
RN07		4822 051 30223	CHIP 22K Ω ± 5% 1/16W	NN05223610					
RN08		4822 051 30473	CHIP 47K Ω ± 5% 1/16W	NN05473610	R603		4822 117 11981	CHIP 3.3K Ω ± 5% 1/2W	RI05332120
RN09		4822 051 30104	CHIP 100K Ω ± 5% 1/16W	NN05104610	R604		4822 117 11981	CHIP 3.3K Ω ± 5% 1/2W	RI05332120
RN10		4822 051 30103	CHIP 10K Ω ± 5% 1/16W	NN05103610	R605		4822 117 11982	CHIP 3.9K Ω ± 5% 1/2W	RI05392120
▲RN11		4822 116 60309	FUSE 2.2 Ω ± 5% 1/4W	NH05022140	R606		4822 117 11982	CHIP 3.9K Ω ± 5% 1/2W	RI05392120
RN12		4822 051 30472	CHIP 4.7K Ω ± 5% 1/16W	NN05472610	R607			CHIP 12K Ω ± 5% 1/2W	RI05123120
RN15					R608			CHIP 12K Ω ± 5% 1/2W	RI05123120
§		4822 051 30222	CHIP 2.2K Ω ± 5% 1/16W	NN05222610	R611				
RN18					§		4822 117 10183	CHIP 2.6K Ω ± 1% 1/10W	NI01262110
					R614				
RT01		4822 116 82487	CHIP 0 Ω ± 5% 1/16W	NN05000610	▲R615				
RT02		4822 051 30339	CHIP 33 Ω ± 5% 1/16W	NN05330610	§		4822 117 10145	FUSE 3.3 Ω ± 5% 1/10W	NH85033110
RT04		4822 051 30759	CHIP	NN05750610	▲R618				
					R619		4822 111 90892	CHIP 0 Ω ± 5% 1/10W	NI05000110
RY51		4822 051 30223	CHIP 22K Ω ± 5% 1/16W	NN05223610	R620		4822 111 90892	CHIP 0 Ω ± 5% 1/10W	NI05000110
RY52		4822 051 30223	CHIP 22K Ω ± 5% 1/16W	NN05223610	R621				
RY53					§		4822 111 90967	FUSE 4.7 Ω ± 5% 1/4W	NF05047140
§		4822 051 30473	CHIP 47K Ω ± 5% 1/16W	NN05473610	R624				
RY55					R625		4822 111 90895	CHIP 10 KΩ ± 5% 1/10W	NI05103110
RY56		4822 051 30103	CHIP 10K Ω ± 5% 1/16W	NN05103610	R626		4822 111 90895	CHIP 10 KΩ ± 5% 1/10W	NI05103110
R100		4822 051 30103	CHIP 10K Ω ± 5% 1/16W	NN05103610	R627				
R101		4822 051 30103	CHIP 10K Ω ± 5% 1/16W	NN05103610	§		4822 111 90893	CHIP 100 Ω ± 5% 1/10W	NI05101110
R105		4822 051 30102	CHIP 1K Ω ± 5% 1/16W	NN05102610	R630				
R106		4822 051 30223	CHIP 22K Ω ± 5% 1/16W	NN05223610	R631		4822 111 90896	CHIP 100K Ω ± 5% 1/10W	NI05104110
R107		4822 051 30274	CHIP 270K Ω ± 5% 1/16W	NN05274610	R632		4822 111 90896	CHIP 100K Ω ± 5% 1/10W	NI05104110
R108		4822 051 30334	CHIP 330K Ω ± 5% 1/16W	NN05334610	▲R835		4822 111 90967	FUSE 4.7 Ω ± 5% 1/4W	NF05047140
R109		4822 051 30331	CHIP 330 Ω ± 5% 1/16W	NN05331610	▲R836		4822 111 90967	FUSE 4.7 Ω ± 5% 1/4W	NF05047140
R110		4822 051 30479	CHIP 47 Ω ± 5% 1/16W	NN05470610	▲R857		4822 116 60309	FUSE 2.2 Ω ± 5% 1/4W	NH05022140
R111					▲R858		4822 116 60309	FUSE 2.2 Ω ± 5% 1/4W	NH05022140
§		4822 116 83208	CHIP 12K Ω ± 5% 1/16W	NN05123610					
R113									
R114		4822 051 30101	CHIP 100 Ω ± 5% 1/16W	NN05101610					
R115		4822 116 83208	CHIP 12K Ω ± 5% 1/16W	NN05123610					
R116		4822 116 83208	CHIP 12K Ω ± 5% 1/16W	NN05123610					
▲R117		4822 111 90967	FUSE 4.7 Ω ± 5% 1/4W	NF05047140					
▲R118		4822 111 90967	FUSE 4.7 Ω ± 5% 1/4W	NF05047140					
R119		4822 051 30471	CHIP 470 Ω ± 5% 1/16W	NN05471610					
R120		4822 051 30104	CHIP 100K Ω ± 5% 1/16W	NN05104610	DH01				
R124		4822 051 30471	CHIP 470 Ω ± 5% 1/16W	NN05471610	§		4822 130 81148	DIODE, IMN10 CHIP	HZ20007210
R125		4822 051 30102	CHIP 1K Ω ± 5% 1/16W	NN05102610					
R126		4822 051 30102	CHIP 1K Ω ± 5% 1/16W	NN05102610	▲DN01				
					§				
R127		4822 051 30471	CHIP 470 Ω ± 5% 1/16W	NN05471610	▲DN08		4822 130 80839	DIODE,S5688G 1A VRM=400V	HD20029050
R128		4822 051 30391	CHIP 390 Ω ± 5% 1/16W	NN05391610	DN09		4822 130 33948	ZENER DIODE, 5.6V 04AZ5.6,MTZJ5.6B,RD5.6ES	HD30561000
▲R130		4822 111 90967	FUSE 4.7 Ω ± 5% 1/4W	NF05047140					
R131		4822 051 30471	CHIP 470 Ω ± 5% 1/16W	NN05471610			4822 130 32362	DIODE, 1SS176,MA165,1SS254 30V 0.1A	HD20002000
R132		4822 116 83208	CHIP 12K Ω ± 5% 1/16W	NN05123610			4822 130 32362	DIODE, ISS176,MA165,ISS254 30V 0.1A	HD20002000
R133		4822 051 30221	CHIP 220 Ω ± 5% 1/16W	NN05221610					
R134		4822 051 30102	CHIP 1K Ω ± 5% 1/16W	NN05102610			4822 130 33759	ZENER DIODE, 4.7V 04AZ4.7,MTZJ4.7B,RD4.7ES	HD30471000
R135		4822 051 30682	CHIP 6.8K Ω ± 5% 1/16W	NN05682610					
R136		4822 051 30682	CHIP 6.8K Ω ± 5% 1/16W	NN05682610					
R137		4822 051 30682	CHIP 6.8K Ω ± 5% 1/16W	NN05682610					

PP16-RESISTORS(COMMON)
CARBON FILM FIXED RESISTOR,
±5% 1/6W:
RN01,RN06,RY57,RY58,R833,R834
R855,R856

PP16-SEMICONDUCTORS

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)	POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)	
▲DY61 \$		4822 130 80839	DIODE, S5688G 1A VRM=400V	HD20029050	▲Q852		4822 130 63292	TRS, 2SD1417	HT41417100	
▲DY63 DY64		4822 130 80318	ZENER DIODE, 6.8V 04AZ6.8,MTZJ6.8C,RD6.8ES	HD30681000	▲F801 ▲F801 ▲F851 ▲F851 ▲F852 ▲F852	/01/02,K F,DF /01/02,K F,DF /01/02,K F,DF	4822 070 38001 4822 070 38001 4822 070 38001 4822 070 38001	PP16-MISCELLANEOUS FUSE 800MA 250V BS LISTED FUSE 1A 250C,UL,CSA, FUSE 800MA 250V BS LISTED FUSE 1A 250V UL,CSA,MTI TYPE FBT FUSE 800MA 250V BS LISTED FUSE 1A 250V UL,CSA,MTI TYPE FBT	FS10080850 FS10100350 FS10080850 FS10100350 FS10080850 FS10100350	
D101		4822 130 80523	DIODE, DA204U (ROME)CHIP	HZ20008210	JF01 JF03		4822 267 41009	JACK, 29P FPC/FFC CONNECTOR TERMINAL, 2P RCA PIN JACK,	YJ06010990 YT02020890	
▲D801 \$		4822 130 80839	DIODE, S5688G VRM=400V IO=1A	HD20029050	JT01 JT02 JT03		4822 267 31369 4822 290 81638 4822 265 31045	OPT. CONNECTOR GP1F32T TERMINAL 1P RCA PIN JACK TERMINAL RCA P-JACK, W/R GOLD	YJ15000090 YT02010790 YT02021080	
▲D808 D831		4822 130 80318	ZENER DIODE, 6.8V 04AZ6.8,MTZJ6.8C,RD6.8ES	HD30681000	J101 J102 J103 J301 J302	DF DF	4822 265 41349	JACK, 12PIN FPC/FFC CONNECTER JACK, 21 PIN FPC/FFC CONNECTOR JACK, 21 PIN FPC/FFC CONNECTOR OPT. CONNECTOR GP1F32R OPT. CONNECTOR GP1F32R	YJ07007950 YJ06011310 YJ06010910 YJ15000150 YJ15000150	
D832		4822 130 80318	ZENER DIODE, 6.8V 04AZ6.8,MTZJ6.8C,RD6.8ES	HD30681000	LT01 LT03 LT04		4822 142 60422 4822 158 60654 4822 158 60654	PULSE TRANSF.(TPS247MN-0386AN) FERRITE CORE BLM31A02 FERRITE CORE BLM31A02	TP41042030 FC90030070 FC90030070	
D833		4822 130 32362	DIODE, 1SS176,MA165,1SS254 30V 0.1A	HD20002000	L102 \$ L104 L301 L501 L502 L601 L602 L603 L604		4822 158 60654 4822 158 60654 4822 158 60654 4822 158 60654 4822 158 60654 4822 158 60654 4822 158 60654 4822 158 60654 4822 158 60654 4822 158 60654	FERRITE CORE BLM31A02 FERRITE CORE BLM31A02 FERRITE CORE BLM31A02 FERRITE CORE BLM31A02 FERRITE CORE BLM31A02 FERRITE CORE BLM31A02 FERRITE CORE BLM31A02 FERRITE CORE BLM31A02 FERRITE CORE BLM31A02 FERRITE CORE BLM31A02	CHIP CHIP CHIP CHIP CHIP CHIP CHIP CHIP CHIP CHIP	FC90030070 FC90030070 FC90030070 FC90030070 FC90030070 FC90030070 FC90030070 FC90030070 FC90030070 FC90030070
D834		4822 130 32362	DIODE, 1SS176,MA165,1SS254 30V 0.1A	HD20002000	SF01		4822 277 21559	SLIDE SWITCH, INT/EXT	SS02021150	
▲D851 \$		4822 130 80839	DIODE, S5688G VRM=400V IO=1A	HD20029050	▲W102			LEAD SUMI CARDE 210MM 21P	YU21100520	
▲D854 D855		4822 130 80623	ZENER DIODE, 13V MTZJ13B,04AZ13,RD13ES	HD31301000	X101		4822 242 81999	CRYSTAL 16.9344MHZ SMD-49	JX16001350	
D856		4822 130 80623	ZENER DIODE, 13V MTZJ13B,04AZ13,RD13ES	HD31301000				PV16-SERVO CIRCUIT BOARD		
D857		4822 130 32362	DIODE, 1SS176,MA165,1SS254 30V 0.1A	HD20002000	R121 R122 R123		4822 116 82487 4822 051 30229 4822 051 30229	PV16-RESISTORS CHIP 0 Ω ± 5% 1/6W CHIP 22 Ω ± 5% 1/16W CHIP 22 Ω ± 5% 1/16W	NN05000610 NN05220610 NN05220610	
D858		4822 130 32362	DIODE, 1SS176,MA165,1SS254 30V 0.1A	HD20002000	Q101			PV16-SEMICONDUCTOR IC, SERVO PREAMP TDA1302T	HC10136490	
QD01		4822 209 31355	IC, TDA1547	HC10066490				PV16-FRONT CIRCUIT BOARD		
QH01		4822 130 42843	F.E.T. 2SK389 (GR OR BL)	HF203892A0	CY01 CY02 CY04 CY05 CY06 CY07 CY11 CY13		4822 122 32669 4822 124 11074 4822 126 11704 4822 126 11704 4822 126 12061 4822 126 11687 4822 124 11331	PV16-CAPACITORS CER. 0.047 μF +80%-20% CHIP TANTL. 47 μF 6.3V CHIP TANTL. 10 μF 16V CHIP CER. 0.022 μF +80%-20% CHIP CER. 0.022 μF +80%-20% CHIP CER. 0.1 μF ± 10% 25V CHIP CER. 0.1 μF +80%-20% CHIP TANTL. 2.2 μF ± 1pF 50V. CHIP	DK58473300 EY47600620 EY10601620 DK98223300 DK98223300 DK56104200 DK98104200 EY22505020	
QH02		4822 130 42843	F.E.T. 2SK389 (GR OR BL)	HF203892A0	RY05 \$ RY07 RY08 RY09 RY10 \$ RY12 RY13 RY14		4822 051 30101 4822 051 30103 4822 051 30473 4822 051 30103 4822 051 30101 4822 051 30472	CHIP 100 Ω ± 5% 1/16W CHIP 10K Ω ± 5% 1/16W CHIP 47K Ω ± 5% 1/16W CHIP 10K Ω ± 5% 1/16W CHIP 100 Ω ± 5% 1/16W CHIP 4.7K Ω ± 5% 1/16W	NN05101610 NN05103610 NN05473610 NN05103610 NN05101610 NN05472610	
QH03		4822 130 61425	TRS. 2SC2873 (Y) CHIP	HX328731B0	RY18 RY21 \$ RY28 RY29		4822 051 30224 4822 051 30104	CHIP 220K Ω ± 5% 1/16W CHIP 100K Ω ± 5% 1/16W	NN05224610 NN05104610	
QH04		4822 130 61425	TRS. 2SC2873 (Y) CHIP	HX328731B0				CHIP 0 Ω ± 5% 1/16W	NN05000610	
QH05 \$		4822 130 63928	TRS. 2SA1312 (B) CHIP	HX113121B0						
QH08		4822 130 63929	TRS. 2SC3324 (B) CHIP	HX333241B0						
QH09		4822 130 63929	TRS. 2SC3324 (B) CHIP	HX333241B0						
QH10		4822 130 62649	F.E.T. 2SJ74 V	HF100741H0						
QH11		5322 130 41844	F.E.T. 2SK170 V	HF201701H0						
QH12		5322 130 41844	F.E.T. 2SK170 V	HF201701H0						
QN01		4822 130 63843	DIG.TRS. HN1C01F(G)	BA20015050						
QN02		4822 130 63843	DIG.TRS. HN1C01F(G)	BA20015050						
QN04		4822 130 60839	DIG.TRS. 2SC2458(Y OR GR)	HT324582B0						
QN05		4822 130 60107	TRS, 2SA1048(Y OR GR)	HT110482B0						
QN07 \$		4822 130 43818	TRS, 2SC2878 (A OR BRANK)	HT328782A0						
QN10		4822 130 63838	DIG.TRS. HN1A01F(Y OR GR)	BA10011050						
QY11		4822 130 60839	TRS, 2SC2458(Y OR GR)	HT324582B0						
QY12		4822 209 83829	IC, NJM79M18FA -18V 0.5A	HC39518090						
▲QY61		4822 209 91174	IC, CD RECORDER SAA7372GP(CD7)	HC10132490						
Q102			IC, DUAL DRIVER TDA7073A	HC10137490						
Q106 \$		4822 130 43954	TRS. 2SD999	HX409992A0						
Q108		4822 130 63843	DIG.TRS. HN1C01F(G)	BA20015050						
Q109		4822 209 90597	IC, TCW125FU	HC10409050						
Q302		4822 209 33578	IC, TDA1315(DAIO)	HC10117490						
Q306		4822 209 91176	IC, 74HC257F	HC725705R0						
Q307		4822 209 32442	IC, TC7WU04F	HC000305K0						
Q501		4822 209 91173	IC, DIGITAL FILTER SM5841	HC10012350						
Q502		4822 209 31356	IC, BS DAC SAA7350 AGP	HC10096490						
Q503		4822 209 91175	IC, NJM 2114	HC10175090						
Q504		4822 209 91175	IC, NJM 2114	HC10175090						
Q601		4822 209 61847	IC, NJM78M05FA5V 0.5A	HC38505090						
Q602		4822 209 61847	IC, NJM78M05FA5V 0.5A	HC38505090						
▲Q801		4822 130 63291	TRS, 2SB1022	HT21022100						
▲Q802		4822 130 63292	TRS, 2SD1417	HT41417100						
▲Q831		4822 130 63291	TRS, 2SB1022	HT21022100						
▲Q832		4822 130 63292	TRS, 2SD1417	HT41417100						
▲Q851		4822 130 63291	TRS, 2SB1022	HT21022100						

[VERS.:VERSION, U:U.S.A, F:Japan, K:Far East, /XX:Europe]

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
RY31 S		4822 051 30473	CHIP 47K Ω $\pm$ 5% 1/16W	NN05473610
RY33 RY34 S		4822 051 30104	CHIP 100K Ω $\pm$ 5% 1/16W	NN05104610
RY39 RY40		4822 051 30105	CHIP 1M Ω $\pm$ 5% 1/16W	NN05105610
RY41		4822 116 82487	CHIP 0 Ω $\pm$ 5% 1/16W	NN05000610
▲RY42		4822 117 10145	FUSE 3.3 Ω $\pm$ 5% 1/10W	NH85033110
RY61 S		4822 051 30104	CHIP 100K Ω $\pm$ 5% 1/16W	NN05104610
RY69				
			PY16-SEMICONDUCTORS	
DY01		4822 130 81148	DIODE, 1MN10 CHIP	HZ20007210
DY02		4822 130 80523	DIODE, DA204U (ROHM) CHIP	HZ20008210
QY01		4822 130 63843	DIG.TRS. HN1C01F(G)	BA20015050
QY02		4822 130 61311	TRS. 2SA1162 (O OR Y) CHIP	HX111622A0
QY03		4822 290 91177	MICROPROCESSOR	HU318KA000
			MAIN CPU MN187164	
QY04		5322 209 32093	IC, SYSTEM RESET PST529CMT	HC100315500
			PY16-MISCELLANEOUS	
JY01			JACK, 29P FFC CONECTOR	YJ07009310
			9603S-29F SID	
LY01		4822 158 60654	FERRITE CORE BLM31A02	FC90030070
			CHIP INDUCTOR	
LY02		4822 158 60654	FERRITE CORE BLM31A02	FC90030070
			CHIP INDUCTOR	
SY01 S		4822 276 20508	PUSH SW	SP01011280
SY06				
VY01		4822 130 91287	DISPLAY UNIT,FTD 9MT131GK	HQ30914410
▲WY01			LEAD,SUMI-CARD 29P/120MM WIRE	YU29120530
XY01		4822 242 80348	CER.VIB.8MHZ EF0V8004	FQ08004030
ZY01		4822 130 83519	PHOTO UNIT RPM-670CBR	HW10001210
			PY26-DIGITAL INPUT CIRCUIT BOARD	
			PY26-CAPACITOR	
C304		4822 126 11687	CERAMIC 0.1 μ 16V CHIP	DK98104200